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A Bibliography of Planetary Geology Principal Investigators and Their Associates, 1978-1979

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A BIBLIOGRAPHY OF PLANETARY GEOLOGY
PRINCIPAL INVESTIGATORS AND THEIR ASSOCIATES, 1978-1979

A compilation of selected bibliographic data specifically relating to recent publications (April 1978 through May 1979) submitted by principal investigators and their associates, supported through NASA's Office of Space Science, Planetary Division, Planetary Geology Program.

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GENERAL INTEREST TOPICS

Chapter 1 General Interest Topics

- Arvidson, R. E., 1979, Exploring the planets: subject to change
Washington University magazine, V. 5, pp. 8-12.
- Arvidson, R., Goettel, K., Hohenberg, C., A post-viking view of
Martian geologic evolution: Reviews of Geophysics and Space
Physics, in preparation.
- Boyce, J., and Collins, P. S., (Compilers), 1979, Reports
of Planetary Geology Program, 1978-1979: NASA TM-80339, 461 p.
- Codona, C., and Saunders, R. S., 1979, Lunar data analysis summary,
NASA Technical Memorandum 80339, p 91-93.
- Crater Analysis Techniques Working Group, 1979, Standard techniques
for presentation and analysis of crater size-frequency data,
Icarus, v. 37, p. 467-474.
- Davies, M. E., Dwornik, S. E., Gault, D. E., and Strom, R. G., 1978,
"Atlas of Mercury": NASA SP-423.
- El-Baz, F., 1978, Monitoring the desert environment from space:
Paper presented at the Cairo International Workshop, Applications
of Science and Technology for Desert Development, 24 p.
- El-Baz, F., 1978, Earth orbital photography in the shuttle era
(abst.): Abstracts with programs, Geological Society of America
Annual Mtg., v. 10, p. 395.
- El-Baz, F., 1978, The western desert of Egypt, its problems and
potentials: Paper presented at the Cairo International Workshop,
Applications of Science and Technology for Desert Development,
26 p.
- El-Baz, F., 1979, Recent space missions give us a new view of Mars:
Action, New York, v. X, no. 10, p. 1 and 8.
- El-Baz, F., Boulos, L., Breed, C., Dardir, A., Dowidar, H.,
El-Etr, H., Embabi, N., Grolier, M., Haynes, V., Ibrahim, M.,
Issawi, B., Maxwell, T., McCauley, J., McHugh, W., Moustafa, A.,
and Yousif, M., 1979, Journey to the Gilf Kebir and Uweinat,
Southwest Egypt, 1978: Submitted to: Geographical Journal.

- Jones, K. L., Arvidson, R. E., Guinness, E. A., Bragg, S. L., Wall, S. D., Carlston, E. D., and Pidek, D. G., 1979, "One Mars Year: Viking Lander Imaging Observations": Science, in press.
- Head, J. W., ed., 1978, Significant Achievements in the Planetary Geology Program - 1976-1977: NASA Contractor Report, NASA CR-2956, 48 p.
- Masursky, Harold, Colton, G. W., and El-Baz, Farouk, 1978, Apollo Over the Moon - A Photographic View from Orbit: NASA Spec. Rept.
- Masursky, Harold, and Crabill, N. L., Viking Site Selection and Certification: NASA SP, in press.
- Muehlberger, W. R., 1978, Examining the Moon: Discovery, Univ. Texas Austin, v. III, no. 2, p. 12-15.
- Mutch, T. A., 1978, The Martian Landscape: NASA SP-425.
- Pike, R. J., 1978, Review of "Mission to Earth," by N. M. Short et al.: Sky & Telescope, v. 56, p. 444-452.
- Rydstrom, H. O., LaPrade, G. L., and Leonardo, E. S. assisted by Dellwig, L. F., 1979, Title: Radar Imagery Interpretation Adaptable to Planetary Investigations, 228 p.
- U.S. Geological Survey, 1979, Planetary Data Facility, (General interest publication prepared by E. C. Morris), 12 p.
- Strom, R. G., 1979, Mercury: A Post-Mariner 10 Assessment: Space Science Reviews, in press.
- Warner, D. M., and El-Baz, F., 1978, Apollo-Soyuz photographs of arid lands (abs.): Abstracts with Programs, Geological Society of America Annual Mtg., v. 10, p. 512.
- Wood, C. A., 1979, "The Martian Landscape" - Book Review: Am. Sci., in press.
- Wood, C. A., 1978, "Geology on the Moon" - Book Review: Am. Sci., v. 66, p. 620.

SOLAR SYSTEM, ASTEROIDS, COMETS AND SATELLITES

Chapter 2
Solar System, Asteroids, Comets and Satellites

- Boyce, J. M., Strom, R. G., Collins, P. C., 1979, Crater Studies: Preliminary Assessment of Voyager 1 Data (abs.): NASA TM-80339, p. 387-389.
- Chapman, C. R., 1978, Asteroid collisions, craters, regoliths, and lifetimes: in Asteroids: An Exploration Assessment, NASA Conf. Publ. 2053, 145-160.
- Chapman, C. R., 1979, Asteroids: Interrelations and Origins. In Asteroids; Univ. of Arizona Press, in press.
- Chapman, C. R., Davis, D. R., Greenberg, R. J., and Wacker, J., 1979, Asteroid collisions and evolution (abs.), Planetary Geology Program Principal Investigators Meeting, abstract volume in press.
- Cintala, M. J., Head, J. W., and Veverka, J., 1978, Characteristics of the cratering process on small satellites and asteroids: Geochimica et Cosmochimica Acta, Suppl. 9, p. 3803-3830.
- Cintala, M. J., Parmentier, E. M., and Head, J. W., 1979, Characteristics of the cratering process on icy bodies: Implications for outer planet satellites (abs.): Lunar and Planetary Science X, 207-209.
- Davis, D. R., Chapman, C. R., Greenberg, R., Weidenschilling, S. J., and Harris, A. R., 1979, Collisional evolution of asteroids: populations, rotations, and velocities. In Asteroids (Univ. of Arizona Press), in press.
- Duxbury, T. and Veverka, J., 1978, Deimos Encounter by Viking: Preliminary Imaging Results: Science, v. 201, pp. 812-814.
- Goettel, K. A. and Barshay, S. S., 1978, The Chemical Equilibrium Model for Condensation in the Solar Nebula: Assumptions, Implications, and Limitations, in The Origin of the Solar System: S. F. Dermott (ed.), p. 611-627.
- Goguen, J., Veverka, J., Thomas, P., and Duxbury, T., 1978, Phobos: Photometry and Origin of Dark Markings: Geophys. Res. Lett., v. 5, pp. 981-984.

- Goguen, J., Veverka, J., and Duxbury, T., 1979, Marsshine on Phobos: *Icarus*, v. 37, pp. 377-388.
- Head, J. W., and Parmentier, E. M., 1978, Endogenic processes on low density satellites: Ganymede and Callisto (abs.): Second Colloquium on Planet. Water and Polar Processes, 115-118.
- Helin, E. F., and Shoemaker, E. M., 1979, Palomar Planet-crossing Asteroid survey 1973-1978. *Icarus*, in press.
- Helin, E. F., Shoemaker, E. M., and Wolfe, R. F., 1979, Ra-Shalom: Third member of the Aten class of earth-crossing asteroids: Abstract, Bull. Am. Astron. Soc. 10, no. 3, Pt. II (1078).
- Housen, K., and Davis, D. R., 1978, Ejecta Distribution Patterns on Phobos and Deimos: *BAAS*, v. 10, no. 3, Part II.
- Housen, K., Davis, D. R., and Greenberg, R., 1979, Unusual ejecta Dynamics on the Martian Satellites (abs.): Second International Mars Colloquium, Pasadena, California.
- Housen, K. R., Greenberg, R., Chapman, C. R., and Wilkening, L. L., 1979, A comparison of regolith evolution on asteroids and the Moon (abs.): *Lunar and Planetary Science X*, p. 579-581.
- Housen, K. R., Wilkening, L. L., Chapman, C. R., and Greenberg, R., 1979, Regolith development on asteroids and the Moon: In Asteroids (Univ. of Arizona Press) in press.
- Housen, K. R., Wilkening, L. L., Chapman, C. R., and Greenberg, R., 1979, Asteroidal regoliths: *Icarus*, in press.
- Klaussen, K., Duxbury, T. and Veverka, J., 1979, Viking Photometry of Phobos and Deimos: *J. Geophys. Res.*, in press.
- Lipa, B. J., 1978, Pulsations and Solar X-ray bursts: *Solar Physics*, v. 57, p. 191-204.
- Peale, S., Cassen, P., and Reynolds, R., 1979, Melting of Io by Tidal Dissipation: *Science*, Vol. 203, p. 892-894.
- Pilcher, C. B., 1979, The Stability of Water on Io: *Icarus*, V. 37, No. 3, p. 559-574.

- Pilcher, C. B., and Purves, N. G., 1978, Physical Processes Affection Water on the Galilean Satellites (abs.), Reports of the Planetary Geology Program, 1977-78, p. 49-50.
- Pollack, J. B., Burns, J. A., and Tauber, M. E., 1979, Gas drag in primordial circuplanetary envelopes: a mechanism for satellite capture: *Icarus*, V. 37, No. 3, p. 612-626.
- Purves, N. G., and Pilcher, C. B., 1979, Thermal Migration of Water on the Galilean Satellites: To be submitted to *Icarus*.
- Shoemaker, E. M., 1979, Geology of Ganymede (abs.): Decennial Meeting of Planetary Geology Principal Investigators, June 6-8, 1979.
- Shoemaker, E. M., and Helin, E. F., 1978, Near-Earth Asteroids as Targets for Exploration (abs.): in Reports of Planetary Geology Program, 1977-1978, NASA Tech. Mem. 79729, p. 20-21.
- Shoemaker, E. M., and Helin, E. F., 1978, Earth-Approaching Asteroids: Populations, Origin, and Compositional types: In Morrison, David, and Wells, W. C., eds, *Asteroids: An Exploration Assessment*: NASA Conf. Publ. 2053. p. 161-176.
- Shoemaker, E. M., and Helin, E. F., 1978, Earth-Approaching Asteroids as Targets for Exploration: in Morrison, David, and Wells, W. C., eds, *Asteroids: An Exploration Assessment*: NASA Conf. Publ. 2053, p. 245-256.
- Shoemaker, E. M., Williams, J. G., Helin, E. F., and Wolfe, R. F., 1979, Earth-crossing Asteroids: Orbital classes, Population, and Fluctuation of Population in Late Geologic Time (abs.): Decennial Meeting of Planetary Geology Principal Investigators, June 6-8, 1979; also submitted to the *Moon and The Planets*.
- Shoemaker, E. M., Williams, J. G., Helin, E. F., and Wolfe, R. F., 1979, Earth-crossing Asteroids: Orbital Classes, Collision Rates with Earth, and Origin: In Gehrels, T., ed., *Asteroids*, Univ. of Arizona Press, in press.

- Smith, B. A., Soderblom, L. A., Johnson, T. V., Ingersoll, A. P., Collins, S. A., Shoemaker, E. M., Hunt, G. E., Masursky, H., Carr, M. H., Davies, M. E., Cook, A. F., Boyce, J. M., Danielson, G. E., Owens, T., Sagan, C., Beebe, R. F., Veverka, J., Strom, R. G., McCauley, J. F., Morrison, D., Briggs, G. A., Suomi, V. E., 1979 The Jupiter System Through the Eyes of Voyager I: Science, v. 204, no. 4396, p. 951-072.
- Strom, R. G., Boyce, J. M., Collins, P. S., 1979, Comparison of the Crater Distribution on Callisto and the Terrestrial Planets: Preliminary Voyager I Results (abs.): NASA TM-80339, p. 375-376.
- Thomas, P., 1979, Surface Features of Phobos and Deimos: Icarus, in press.
- Thomas, P., Veverka, J., Bloom, A., and Duxbury, T., 1979, Grooves on Phobos: Their Distribution, Morphology and Possible Origin: J. Geophys. Res., in press.
- Thomas, P., Veverka, J., and Chapman, C., 1979, Crater Densities on the Martian Satellites: J. Geophys. Res., in press.
- Thomas, P., Veverka, J., and Duxbury, T., Origin of the Grooves on Phobos: Nature, v. 273, pp. 282-284.
- Veverka, J., 1978, The Surfaces of Phobos and Deimos: Vistas in Astronomy, v. 22, pp. 163-192.
- Veverka, J., Thomas, P., and Duxbury, T., 1978, The Puzzling Moons of Mars: Sky and Telescope, v. 56, pp. 186-189.

STRUCTURE AND TECTONICS

CHAPTER 3 Structure and Tectonics

- Cassen, P., Young, R. E., and Schubert, G., 1978, The Distortion of the Moon Due to Convection: *Geophys. Res. Lett*, v. 5, p. 244-246.
- Cassen, P., Reynolds, R., Graziani, F., Summers, A., McNellis, J., Blalock, L., 1979, Convection and Lunar Thermal History: *Physics of the Earth and Planetary Interiors*, in press.
- Chandler, W. E., Jr., 1978, Graven mechanics at the junction of the Hartford and Deerfield Basins of the Connecticut Valley, Massachusetts: *Cont. #33, Dept. Geology and Geography, U. Mass., Amherst, Mass. 01003*, 151 p.
- Comer, R. P., Solomon, S. C., and Head, J. W., 1979, Elastic lithosphere thickness on the Moon from mare tectonic features: a formal inversion: *EOS*.
- Comer, R. P., Solomon, S. C., and Head, H. W., 1979, Elastic lithosphere thickness on the Moon from mare tectonic features: a formal inversion: *Proc. Lunar Plan. Sci. Conf. 10th*, submitted.
- De Hon, R. A., 1979, Structural model of the Imbrium basin: *Lunar and Planetary Science X*, p. 271-273.
- Dzurisin, D., 1978, The tectonic and volcanic history of Mercury as inferred from studies of scarps, ridges, troughs, and other lineaments: v. 83 no. B10, p. 4883-4906.
- Fagin, S. W., Worral, D. M., and Muehlberger, W. R., 1978, Lunar mare ridge orientations: implications for lunar tectonic models: *Proc. Lunar Planet. Sci. Conf. 9th*, p. 3473-3479.
- Golombek, M. P., 1978, Geometry of lunar grabens: Implications for shallow crustal structure (abs.): *NASA Tech. Mem. 79729*, p. 103-105.
- Golombek, M. P., 1979, Mechanics of lunar graben formation and the tectonics of the Moon (abs.): *EOS Trans. Am. Geophys. Un.*, v. 60, p. 299.

- Golombek, M. P., 1979, Structural analysis of lunar grabens and the shallow crustal structure of the Moon: J. Geophys. Res., in press.
- Lucchitta, B. K., 1978, A large landslide on Mars: Geol. Soc. of America Bull., v. 89, no. 11, p. 1601-1609.
- Lucchitta, B. K., 1978, Landslides in the Valles Marineris, Mars (abs.): in Repts. Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 258-290.
- Lucchitta, B. K., 1978, Morphology of chasma walls, Mars: U.S. Geol. survey, J. Res., v. 6, no. 5, p. 651-662, and Interag. Rept.: Astrogeology 83, 51 p. Open file rept., 77-678.
- Lucchitta, B. K., and Klockenbrink, J. L., 1979, Ridges and scarps in the equatorial belt of Mars (abs.): in Lunar and Planet. Sci. X, Abstracts of papers submitted to the Tenth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 750-752.
- Lucchitta, B. K., and Watkins, J. A., 1978, Ages of graben systems on the Moon: Proc. Lunar and Planet. Sci. Conf. 9th, Geochim. et Cosmochim. Acta, p. 3459-3472.
- Lucchitta, B. K., Debris flows on Olympus Mons NASA TM, in press.
- Lucchitta, B. K., Landslides in Valles Marineris, Mars: J. Geophys. Res., in press.
- Masson, Ph., 1978, Structural evolution of the Claritas Fossae area of Mars. in Reports of Planetary Geology Program, 1977-1978, NASA Technical Memorandum 79729.
- Masson, Ph., 1978, Mars equatorial tectonics. in C. R. Journees de Planetologie DGRST-INAG, Paris, November 6, 7, 8, 1978, in press.
- Masson, Ph., 1978, Tectonics of the Valles Marineris - Syria Planum areas of Mars: in Symposium of the European Planetary Geology Consortium, Paris, November 9-10, 1978.
- Masson, Ph., 1979, Evolution structural de Syria Planum: in Zeme Reunion Annuelle des Sciences de la Terre, Lyon, April 23-25, 1979, p. 317.

- Masson, Ph., 1979, Interpretation of Labyrinthus Noctis origin (a summary): in Workshop on Planetary Science, Roma, April 23-27, 1979.
- Masson, Ph., 1979, Contribution to the structural interpretation of the Valles Marineris - Noctis Labyrinthus - Claritas Fossae regions of Mars. submitted to Moon and Planets.
- Masson, Ph., 1979, Noctis Labyrinthus Geomorphology. structural and geothermal origins (a summary): Paper to be presented at the Decennial Meeting of Planetary Geology Principal Investigators, Brown University, Providence, June 6-8, 1979.
- Masson, Ph., 1979, Contribution to the structural interpretation of the Valles Marineris - Noctis Labyrinthus - Claritas Fossae Regions of Mars: submitted to J. Geophys. Res.
- McGill, G. E., 1978, Graben geometry and crustal structure (abs.): NASA Tech. Mem. 79729, p. 100-102.
- McGill, G. E., 1979, Tectonics of Venus (abs.): Reports of Planetary Geology Programs, 1978-1979, NASA Tech. Mem., in press.
- McGill, G. E., and A. W. Stromquist, 1979, The grabens of Canyonlands National Park, Utah: Geometry, mechanics, kinematics: J. Geophys. Res., in press.
- Melosh, H. J., and D. Dzurisin, 1978, Mercurian global tectonics: A consequence of tidal despinning?, Icarus, v. 35, p. 227-236.
- Morris, E. C., and Underwood, J. R., 1978, Polygonal fractures of the martian plains (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 97-99.
- Peale, S., and Cassen, P., 1978, Contribution of Tidal Dissipation to Lunar Thermal History, Icarus, Vol. 36, No. 2, p. 245-269.
- Phillips, R. J., 1978, Topical Problems in Martian Geophysics (abs.): NASA Tech. Mem. 79729, p. 69-70.
- Phillips, R. J., 1978, Mars: The Tharsis Uplift (abs.): Conference on Plateau Uplift: Mode and Mechanism, The Lunar and Planetary Institute, p. 40-42.

- Phillips, R. J., and Bills, B. G., 1979, Mars: Crust and Upper Mantle Structure (abs.): NASA Conference Pub. 2072, p. 65-67.
- Plescia, J. B., and Saunders, R. S., 1979, Styles of faulting and tectonics of the Tharsis Region (abs.): Lunar and Planetary Science X Abstracts, p. 986-988.
- Plescia, J. B., and Saunders, R. S., 1979, Tectonism of the Tharsis Region (abs.) NASA Technical Memorandum 80339, p. 49-51.
- Potter, D. B., Jr., and McGill, G. E., 1978, Valley anticlines of the Needles District, Canyonlands National Park, Utah: Geol. Soc. America Bull., v. 89, p. 952-960.
- Potter, D. B., Jr., and McGill, G. E., 1979, Field analysis of a pronounced topographic lineament, Canyonlands National Park, Utah: Proc. 3rd Int. Conf. Basement Tectonics, in press.
- Reynolds, R., and Cassen, P., 1979, On the Internal Structure of the Major Satellites of the Outer Planets: Geophys. Res. Lett., Vol. 6, No. 2, p. 121-124.
- Schubert, G., Stevenson, D., and Cassen, P., 1979, Radiogenic Heat Source Contents of the Earth and Moon: Earth and Planet. Sci. Lett., submitted.
- Schubert, G., and Cassen, P., 1979, Concentration of Radioactive Heat Sources in the Moon (abs.): Lunar and Planet. Sci. X, p. 1073-1074, Lunar and Planetary Institute, Houston, Texas.
- Schubert, G., 1979, Subsolidus Convection in the Mantles of Terrestrial Planets: Ann. Rev. Earth Planet. Sci., v. 7, p. 289-342.
- Schubert, G., Cassen, P., and Young, R. E., 1979, Subsolidus Convective Cooling Histories of Terrestrial Planets: Icarus, in press.
- Schubert, G., Cassen, P., and Young, R. E., 1979, Core Cooling by Subsolidus Mantle Convection: Phys, Earth Planet. Int., in press.

- Scott, D. H., Watkins, J. A., and Diaz, J. M., 1978, Regional deformation of mare surfaces (abs.): in Lunar and Planet. Sci. IX, Papers submitted to the Ninth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 1038-1040.
- Scott, D. H., Watkins, J. A., and Diaz, J. M., 1978, Regional deformation of mare surfaces: Proc. Lunar and Planet. Sci. Conf. 9th, Geochim, et cosmochim. Acta, p. 3527-3539.
- Sleep, N. H., and Phillips, R. J., 1979, An Isostatic Model of the Tharsis Province, Mars: Geophys. Res. Lettrs. in press.
- Solomon, S. C., and Head, J. W., 1978, The tectonics of filled basins on the terrestrial planets (abs.): NASA TM-79729, p. 66-68.
- Solomon, S. C., 1979, Formation, history, and energetics of cores in the terrestrial planets: Phys. Earth Planet. Int., in press.
- Solomon, S. C., 1979, Differentiation of crusts and cores of the terrestrial planets: lessons for the early Earth?: Precambrian Res., submitted.
- Solomon, S. C., and Head, J. W., 1979, Vertical movement in mare basins: relation to mare emplacement, basin tectonics, and lunar thermal history: J. Geophys. Res., v. 84, no. B4, 1667-1682.
- Solomon, S. C., and Head, J. W., 1979, Characteristics and evolution of the lunar lithosphere from the deformation of mascon mare basins (abs.) in Lunar and Planetary Science X, The Lunar and Planetary Institute, Houston, Texas, pp. 1140-1142.
- Solomon, S. C., Head, J. W., and Comer, R. P., 1979, Thickness of the Martian lithosphere from tectonic features: evidence for lithospheric thinning beneath volcanic provinces (abs.): in: Reports of Planetary Geology Program, 1978-1979, NASA TM, in press.
- Solomon, S. C., and Head, J. W., 1979, Characteristics and evolution of the lunar lithosphere from the deformation of mascon mare basins: Lunar and Planetary Science X, 1140-1142.

- Thomas, P., 1978, Structural Pattern Analysis of the Caloris surroundings: a precatoris pattern on Mercury: in Reports of Planetary Geology Program, 1977-1978, NASA Technical Memorandum 79729.
- Thomas, P., Masson, Ph., Sorel, D., 1978, Tectonic studies of Mercury: in C. R. Journees de Planetologie DGRST-INAG, Paris, Nov. 608, 1978, in press.
- Thomas, P., 1978, Two examples of "recent" extending tectonics on Mercury (abs.): in Symposium of the European Planetary Geology Consortium, Paris, Nov. 9-10, 1978.
- Thomas, P., 1979, Etudes tectoniques de la Planete Mercure: in Zeme Reunion Annuelle des Sciences de la Terre, Lyon, April 23-25, 1979, p. 444.
- Thomas, P., 1979, Tectonic implications of plains formation on Mercury: in Workshop on Planetary Science, Roma, April 23-27, 1979.
- Thomas, P., 1979, Plains formation on Mercury - Tectonic implications: submitted to Moon and Planets.
- Wise, D. U., 1978, Tectonics of Mars (abs.): Proc., Symposium European Planet. Geol. Consort., Paris, 4 p.
- Wise, D. U., Golombek, M. P., and McGill, G. E., 1978, Tharsis province of Mars: Deformational history and fault sequence (abs.): NASA Tech. Mem. 79729, p. 203-204.
- Wise, D. U., and Goldstein, A. G., 1979, Hobbs, W. H., revisited - regional and ground fracture studies of the Connecticut Valley area: Proc. 3rd Int. Conf. Basement Tectonics, in press.
- Wise, D. U., Golombek, M. P., and McGill, G. E., 1979, Structural sequence, timing, and a model for the evolution of the Tharsis province of Mars (abs.): NASA Conf. Pub. 2072, p. 89.
- Wise, D. U., Golombek, M. P., and McGill, G. E., 1979, Tharsis province of Mars. Geologic sequence, geometry and a deformation mechanism: Icarus, in press.

- Wise, D. U., McGill, G. E., and Golombek, M. P., 1979, Asymmetry of Mars: Importance of core formation to martian tectonic history (abs.): Reports of Planetary Geology Program 1978-1979, NASA Tech. Mem., in press.
- Wise, D. U., Golombek, M. P., and McGill, G. E., 1979, Tectonic evolution of Mars: J. Geophys. Res., in press.
- Wood, C. A., 1979, Marda Fault Zone and the Opening of the Red Sea: in El-Baz, F. and Warner, D. M. (eds): Earth Observations and Photography, Vol. 2 of the Apollo-Soyuz Test Project Summary Science Report, NASA SP-412 (Washington, DC) in press.
- Wood, C. A., and Head, J. W., 1979, Rift Valleys on Earth, Mars and Venus: in Ramberg, I. B., and Jeukman, E. R., (eds): Tectonics and Geophysics of Continental Rifts, p. 401-408, (Reidel; Dordrecht).
- Worrall, D. M., Fagin, S. W., and Meuhlberger, W. R., 1978, Ridge orientation vs position in circular lunar maria (abs.): EOS Transactions, Amer. Geophys. Un., v. 59, p. 310-311.
- Zebib, A., Schubert, G., and Straus, J. M., 1979, Infinite Prandtl Number Thermal Convection in a Spherical Shell: J. Fluid Mech., in press.

STRATIGRAPHY

CHAPTER 4 STRATIGRAPHY

- Andre, C. G., Wolfe, R. W., and Adler, I., 1978, Evidence for a high magnesium subsurface basalt in Mare Crisium from orbital X-ray fluorescence data: in Mare Crisium: The View from Luna 24, p. 1-12.
- Andre, C. G., Wolfe, R. W., and Adler, I., 1979, Are early magnesium-rich basalts widespread on the Moon? (abs.): Lunar and Planetary Science X, LPI, Houston, p. 36-37.
- Andre, C. G., Wolfe, R. W., Adler, I., and Clark, P., 1979, Mare basalt depths from orbital X-ray data (abst.): Lunar and Planetary Science X, LPI, Houston, p. 38-40.
- Arvidson, R. E., 1979, Changes at the Viking Landing sites over short and long timescales (abs.): Lunar and Planetary Sci. Conf. X, pp. 48-49.
- Carr, M. H., 1979, The morphology of the martian surface: Space Science Review in press.
- Chaikin, A. L., El-Baz, F., and Maxwell, T. A., 1979, Comparison of Mariner 9 and Viking imagery of the Cerberus albedo feature: NASA TMX, in press.
- Christiansen, E. H., and Head, J. W., 1978, Martian landslides -- classification and genesis (abs.): NASA TM-79729, p. 285-287.
- De Hon, R. A., 1979, Thickness of western mare basalt (abs.): Lunar and Planetary Science X, p. 274-276.
- De Hon, R. A., 1979, Thickness of western mare basalts: Proc. Lunar and Planet.-Sci. Conf. 10th, in press.
- De Hon, R. R., 1979, Preliminary thickness study of plains-forming materials in the Caloris basin region of Mercury (abs.): Reports of Planet. Geol. Program, NASA Tech. Mem., in press.
- El-Baz, F., 1978, A stratigraphic approach to the evolution of the lunar crust: in Comparative Planetology. C. Ponnamperna, ed., Academic Press, New York, p. 103-139.

- Goettel, K. A., 1978, The Composition of Mars (abs.): Reports of the Planetary Geology Program, 1977-1978; NASA TM 79729, 116-117b.
- Gregory, T., Saunders, R. S., and Plescia, J. B., 1979, A martian global plains system represented by Lunae Planum surface units (abs.): NASA Technical Memorandum 80339, p. 75-77.
- Hawke, B. R., and Head, J. W., 1978, The Fra Mauro formation at the Apollo 14 site: Identification of the Imbrium ejecta and local components: Submitted to J. Geophys. Res.
- Head, J. W., Adams, J. R., McCord, T. B., Pieters, C., and Zisk, S., 1978, Regional stratigraphy and geologic history of Mare Crisium: Mare Crisium: The View from Luna 24, Pergamon, p. 323-354.
- Hiller, K., 1978, Mars-Photogeologische Untersuchung Der Region Amenthes Und Umgebung. (Mars-Photogeological Investigations of the Amenthes Region and Vicinity): Ph.D. Thesis, Univ. Munich, 140p.
- Hiller, K., Neukum, G., Bodechtel, J., 1978, Nepenthes Mensae (abs.): EPGC, Paris.
- Hiller, K., Neukum, G., 1978, Stratigraphy of Amenthes Quadrangle and Vicinity (abs.): Reports of Planetary Geology Program 1977-1978: Tucson 1978, NASA TM 79729.
- Holt, H. E., and Burmeier, T. L., 1978, Preliminary study of North Tsihimi Butte, Navajo County, Arizona (abs.): in Repts. of Planet. Geol. Prog., 1977, 1978, NASA TM 79729, p. 183-184.
- Horstman, D. C., 1978, The geology of the Club Ranch area, Yavapai County, Arizona: J. Arizona-Nevada Acad. of Sci., Proc. Suppl., v. 13, p. 47.
- Huguenin, R. L., Head, J. W., and McGetchin, T. R., 1978, Mars: Petrologic units in the Margaritifer Sinus and Coprates Quadrangle (abs.): NASA TM-79729 , p. 118-120.
- Kieffer, H. H., and Soderblom, L. A., 1979. Global variations of martian surface materials (abs.): in Second Internat. Colloq. on Mars, NASA Conf. Pub. 2072, p. 46.

- Lucchitta, B. K., and Boyce, J. M., 1979; Mare elevations and ages (abs.): in Lunar and Planet. Sci. X, Abstracts of papers submitted to the Tenth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 748-749.
- Lucchitta, B. K., and Boyce, J. M., 1979, Mare Elevations and Ages: Proc. Tenth Lunar and Planetary Sci. Conf. Geochim, et Cosmochim, Acto, in press.
- Malin, M. C., Phillips, R. J., and Saunders, R. S., 1978, the Nature and Origin of the Martian Planetary Dichotomy (is still a problem) (abs.): Reports of Planetary Geology Program 1977-1978. NASA TMX-79729, 83-84.
- Malin, M. C., 1978, Mars: Evidence of Indurated Deposits of Fine Materials (abs.): Second International Colloquium on Mars, Pasadena, CA., January 15-18, 1979, p. 54.
- Maxwell, T. A., and Phillips, R. J., 1978, Stratigraphic correlation of the radar-detected subsurface interface in Mare Crisium: Geophysical Res. Lett., v. 5, p. 811-814.
- Maxwell, T. A., 1979, Field investigation of martian canyonlands in southwestern Egypt (abs.): in Second Intl. Colloq. on Mars, NASA Conf. Pub. 2072, p. 54.
- McCauley, J. G., Guest, J. E., Trask, N. J., Schaber, G. G., Greeley, R., Gault, D. E., and Holt, H. E., 1978, The stratigraphy of the Caloris Basin. NASA TM 79729, p. 75-77.
- McCauley, J. F., Guest, J. E., Trask, N. J., Schaber, G. G., Greeley, R., Gault, D. E., and Holt, H. E., 1978, Stratigraphy of the Caloris Basin: Icarus in press.
- Pieters, C., Head, J. W., Adams, J. B., McCord, T. B., Zisk, S., and Whitford-Stark, J. L., 1979, Late High-T₁ basalts of the western maria: geology of the Flamsteed region of Oceanus Procellarum: In preparation.
- Scott, D. H., 1978, Mars, Highlands-lowlands: Viking contributions to Mariner relative age studies: Icarus, v. 34, p. 479-485.

- Scott, D. H., 1978, Viking contributions: Martian highland-lowland stratigraphy (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 89-90.
- Scott, D. H., 1979, Geologic problems in the northern plains of Mars (abs.): in Lunar and Planet. Sci. X, Abstracts of papers submitted to the Tenth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 1093-1094.
- Simpson, R. A., Tyler, G. L., and Campbell, D. B., 1978, Arecibo Radar Observations of the Viking Chryse Landing Site, presented at Amer. Astron. Soc. Div. for Planetary Sci. Meeting. November 1, 1978, and published in Bulletin Amer. Astron. Soc., v. 10, no. 3, Part II, p. 570.
- Simpson, R. A., Tyler, G. L., and Campbell, D. B., 1978, Arecibo Radar Observations of Mars Surface Characteristics in the Northern Hemisphere, Icarus, v. 36, no. 2, pp. 153-173.
- Simpson, R. A., Tyler, G. L., Brenkle, J. P., Sue, M., 1979, Viking Bistatic Radar Observations of Hellas: Preliminary Results, Science, v. 203, no. 4375, pp. 45-46.
- Soderblom, L. A., 1979, Mars: The post-Viking view: Submitted to Rev. Geophys. and Space Phys.
- Soderblom, L. A., Edwards, K., Eliason, E. M., Sanchez, E. M., and Charette, M. P., 1978, Global color variations on the martian surface: Icarus, v. 34, p. 446-464.
- Spudis, P. D., 1978, Composition and origin of the Apennine Bench Formation: Proc. Lunar Planet. Sci. Conf. 9th, p. 3379-3394.
- Spudis, P. D., 1978, Origin and distribution of KREEP in Apollo 15 soils (abs.): in Lunar Planet. Sci. IX, p. 1089-1091, The Lunar and Planetary Inst., Houston, Texas.
- Squyres, S., 1979, The distribution of Lobate Debris Aprons on Mars: J. Geophys. Res., in press.
- Strain, P. L. and El-Baz, F., 1979, Topography of the Smythii basin (abs.): Lunar and Planetary Science X, LPI, Houston, p. 1180-1182.

- Strain, P. L. and El-Baz, F., 1979, Smythii basin topography and comparisons with Orientale: Submitted to Proc. 10th Lunar Planet. Sci. Conf.
- Strickland, E. L., 1979, 1979, Soil stratigraphy and rock coatings observed in color-enhanced Viking Lander images (abs.): Lunar and Planetary Sci. Conf. X, pp. 1192-1194.
- Tyler, G. L., 1979, Comparison of Quasi-Specular Radar Scatter from the Moon with Surface Parameters Obtained from Images, 1979: Icarus, v. 37, no. 1, pp. 29-45.
- Underwood, J. R., Jr., 1979, Libyan Desert glass; 1978 expedition: Trans. Kansas Acad. Science, in press.
- Whitford-Stark, J. L., and Head, J. W., 1978, Stratigraphy of Oceanus Procellarum basalts: Sources and styles of emplacement: In preparation.
- Whitford-Stark, J. L., 1979, Charting the southern seas: the evolution of Mare Australe (abs.): Lunar and Planetary Science X, 1341-1343.

VOLATILES AND REGOLITH

CHAPTER 5 VOLATILES AND REGOLITH

- Allen, C. C., 1978, Desert varnish of the Sonoran desert - optical and electron probe microanalysis: *Journal of Geology*, v. 86, p. 743-752.
- Anderson, D. M., and Tice, A. R., 1979. The Viking GCMS analysis of water in the Martian regolith: *Proceedings of the Second Colloquium on Planetary Water and Polar Processes*, p. 55-61.
- Anderson, D. M., and Tice, A. R., 1979, The analysis of water in the Martian regolith: submitted to *Journal of Molecular Evolution*.
- Andrawes, F. F., and Gibson, E. K., Jr., 1979, Release and analysis of gases from geological samples: *American Mineralogist*, v. 64, p. 453-463.
- Booth, M. C., and Kieffer, H. H., 1978, Carbonate formation in Mars-like environments: *J. Geophys. Res.*, v. 83, p. 1809-1815.
- Dzursin, D., and Fanale, F., 1979, Does regolith buffering affect seasonal atmospheric pressure variations on Mars?: *J. Geophys. Res.*, in press.
- Gibson, E. K., Andrawes, F. F., and Urbancic, M. A., 1979, Volatile elements and phase determinations in planetary samples: A proven approach for consideration in future Mars studies (abs.): *Second International Colloquium on Mars*, p. 30.
- Gierasch, P., Thomas, P., French, R., and Veverka, J., 1979, Spiral Clouds on Mars: A New Atmospheric Phenomenon: *Geophys. Res. Lett.*, in press.
- Greeley, R., 1979, Silt clay aggregates on Mars: *J. Geophys. Res.*, in press.
- Haberle, R. M., Leovy, C. B., and Pollack, J. B., 1979, A numerical model of the Martian polar cap winds, *Icarus*, in press.
- Huguenin, R. L., Miller, K. J., and Harwood, W. S., 1978, Mars: Chemical Reduction of the Regolith by Frost: *Proc. Second Colloquium on Planetary Water and Polar Processes*, p. 83-99.

- Huguenin, R. L., Clark, R. N., and McCord, T. B., 1978, Mars: Remote Spectral Identification of H₂O Frost and Mineral Hydrate: Proc. Second Colloquium on Planetary Water and Polar Processes, p. 100-108.
- Huguenin, R. L., 1979, Mars: Possible Occurrence of Near-Surface Liquid H₂O Brines in the Solis Lacus Region (-25°, 85°) (abs.): Lunar and Planetary Science X, p. 596-597.
- Huguenin, R. L., and Miller, K. J., 1979, Mars: Chemical Reduction of the Regolith by Frost (abs.): Reports of Planetary Geology Program, 1978-1979, in press.
- Huguenin, R. L., Clifford, S. M., Sullivan, C. A., and Miller, K. J., 1979, Remote Sensing Evidence for Oases on Mars (abs.): Reports of Planetary Geology Program, 1978-1979, in press.
- Huguenin, R. L., Clifford, S. M., Miller, K. J., and Sullivan, C. A., 1979, Remote Sensing Evidence for Oases on Mars: J. Geophys. Res., in press.
- Huguenin, R. L., Miller, K. J., and Harwood, W. S., 1979, Frost-Weathering on Mars: Experimental Evidence for Peroxide formation: J. Mol. Evol., in press.
- Kieffer, H. H., and Palluconi, F. D., 1979, The climate of the martian polar caps (abs.): in Second Internat. Colloq. on Mars, NASA Conf. Pub. 2072, p. 45.
- Kieffer, H. H., Introduction to: Mars Volatiles and Meteorology, Mars Volatiles Special Issue, J. Geophys. Res., in press.
- Kieffer, H. H., Thermal and reflectance observations of the martian south polar caps recession in preparation.
- Malin, M. C., 1978, Studies of martian ground rot (abs.): Division of Planetary Sciences, American Astronomical Society Tenth Annual Meeting, Pasadena, CA, Oct. 31-Nov 3, 1978. Bull. Am. Astro. Soc., 10(3), 569.
- Martin, T. Z., and Kieffer, H. H., Thermal infrared properties of the martian atmosphere, 2: 15 um band measurements: Mars Volatiles Special Issue, J. Geophys. Res., in press.

- Martin, T. Z., Peterfreund, A. R., Miner, E. D., Kieffer, H. H., and Hunt, G. E., Thermal infrared properties of the martian atmosphere, 1: Global behavior at 7, 9, 11, and 20 um: Mars Volatiles Special Issue, J. Geophys. Res., in press.
- McCord, T. B., Clark, R. N., and Huguenin, R. L., 1978, Mars: Near-Infrared Spectral Reflectance and Compositional Implications, J. Geophys. Res., V. 83, p. 5433-5441.
- McCord, T. B., Singer, R. B., Clark, R. N., Adams, J. B., and Huguenin, R. L., 1979, Mars: Surface Composition from Reflectance Spectroscopy: A Summary, J. Geophys. Res., in press.
- McKee, T. R., and Moore, C. B., 1979, Extraterrestrial phyllosilicates and new types of interstratification: Clay Minerals Society Annual Meeting, Program and abstracts, Macon, Georgia, in press.
- McKee, T. R., and Moore, C. B., 1979, Identification of matrix phyllosilicates from Murray and Nogoya carbonaceous chondrites: Proc. Lunar Planet. Sci. Conf. 10th, in press.
- Moore, H. J., Liebes, S., Jr., Crouch, D. S., and Clark, L. V., 1978, Rock pushing and sampling under rocks on Mars: U.S. Geol. Survey Prof. Paper 1081, 21 p.
- Moore, H. J., Spitzer, C. R., Cates, P. M., Bradford, K. Z., Scott, R. F., Hutton, R. E., and Shorthill, R. W., 1979, Surface materials of the Viking landing sites -- Extended Mission: Second Internatl. Colloquium on Mars (abs.), NASA Conference Publ. 2072, p. 59.
- Moore, H. J., Spitzer, C. R., Bradford, K. Z., Cates, P. M., Scott, R. F., Hutton, R. E., and Shorthill, R. W., 1979, Sample fields of the Viking Landers, physical properties, and aeolian processes: Journ. Geophys. Res., in press.
- Moore, H. J., Spitzer, C. R., Scott, R. F., Hutton, R. E., and Shorthill, R. W., 1979, Rocks in the sample fields of Viking Landers 1 and 2 (abs.): Reports of Planetary Geology Program, 1978-1979, in press.

- Morris, R. V., and Lauer, H. V., Jr., 1979, Experimental evidence against the UV photochemical oxidation of magnetite (abs.): Reports of the Planetary Geology Program, 1978-1979, in press.
- Peterfreund, A. R., and Kieffer, H. H., 1979, Thermal infrared properties of the martian atmosphere III. Local dust clouds: J. Geophys. Res., in press.
- Pollack, J. B., 1979, Climatic change on the terrestrial planets, Icarus, V. 37, No. 3, p. 479-553.
- Prestel, D. J., McKay, D. S., and Haynes, C. V., 1979, Sulfate-rich caliche deposits from the Western Desert, Egypt: Implications for the Martian regolith, submitted to J. Geophys. Res. (Mars volume, 1979).
- Prestel, D. J., McKay, D. S., and Haynes, C. V., 1979, Evaporites from the Southwestern Desert, Egypt: Possible Martian analogues for the production of duricrust (abs.): NASA Conference Publication 2072, Second Intl. Colloquium on Mars, JPL-Calif, Inst. of technology, Pasadena, CA, Jan. 15-18, 1979, p. 70.
- Prestel, D. J., McKay, D. S., and Haynes, C. V., 1979, Mineralogy of caliche-like salt crusts from the Western Desert, Egypt: Implications for Martian duricrust formation (abs.): submitted to the Tenth Annual Planetary Geology Principal Investigators Meeting, June 6-8, 1979.
- Soderblom, L. A., and Wenner, D. B., 1978, Possible fossil H₂O liquid-ice interfaces in the martian crust: Icarus, v. 34, p. 622-637.

GLACIAL/PERIGLACIAL STUDIES

CHAPTER 6 GLACIAL/PERIGLACIAL STUDIES

- Boothroyd, J. C., and Nummedal, D., 1978, Proglacial braided outwash: a model for humid alluvial fan deposits: p. 631-668, in Miall, A. D. (ed.), Fluvial Sedimentology, Canadian Soc. Petroleum Geologists Memoir 5, 859 p.
- Hodges, C. A., and Moore, H. J., 1978, The subglacial birth of Olympus Mons (abs.): Geological Society of America, Abstracts with Programs, v. 10, no. 7, p. 422.
- Hodges, C. A., and Moore, H. J., 1978, Tablemountains of Mars (abs.). Lunar and Planetary Science IX, The Lunar and Planetary Institute, p. 523-525.
- Hodges, C. A., and Moore, H. J., 1979, Tablemountains and implications for glacial ice on Mars: Jour. Geophys. Res., in press.
- Howard, A. D., 1978, Investigations of Martian polar stratigraphy, structure, and topography (abs.): Proc. second Coll. Planetary Water and Polar Processes, p. 184-185.
- Howard, A. D., 1978, Origin of the stepped topography of the Martian poles: Icarus, v. 34, p. 581-599.
- Lucchitta, B. K., 1979, Survey of cold-climate features on Mars: Proc. Second Colloq. on Planet. Water and Polar Processes, Hanover, NH, Oct. 16-18, 1978, p. 131-134.
- Malin, M. C., 1978, Martian Polar Deposits: The Mariner 9 Perspective (abs.): Second Colloquium on Planetary Water and Polar Processes, Hanover, NH, October 16-18, 1978.
- Rossbacher, L., 1978, Terrestrial analogs for Martian striped ground: Proc. Second Colloquium, Planetary Water and Polar Processes; U.S. Army Cold Regions Research and Engineering Laboratory: Hanover, NH, p. 137-141.
- Theilig, E., and Greeley, R., 1978, Episodic channeling and layered terrain on Mars: Implications for ground ice: Proc. Second Colloq. on Planetary Water and Polar Processes, Hanover, New Hampshire, p. 151-157.
- Thompson, D. E., 1979, Stability of Channelized Ice Stream Drainage: Progress on a West Antarctic Ice Drainage Model (abs.): Proceedings, N.E. Regional Meeting, International Glaciological Society, Kingfield, ME, March 1-4.

VOLCANISM STUDIES

CHAPTER 7 VOLCANISM STUDIES

- Allen, C. C., Volcano-ice interactions on Mars: submitted to Journal of Geophysical Research.
- Allen, C. C., Icelandic subglacial volcanism - thermal and physical studies: submitted to the Journal of Geology.
- Allen, C. C., Volcano-ice interactions on the Earth and Mars: Ph. D. Dissertation, Department of Planetary Sciences, University of Arizona, available from University Microfilms.
- Bussod, G. and McGetchin, T. R., 1979, Composition of martian primary lavas - convergence of model results (abs.): in Lunar and Planetary Science X, Lunar and Planetary Institute, Houston, pp. 172-174.
- Carr, M. H., and Greeley, R., 1979, The volcanic features of Hawaii, a basis for comparison with Mars: NASA SP, in press.
- Casadevall, T., Stoiber, R., and Dzurisin, D., 1979, Terrestrial volcanic degassing: A review of mechanisms and magnitudes (abs.), NASA Conf. Pub. 2072, p. 12-13.
- Dzurisin, D., 1978, Planetary studies of Kilauea Volcano, Hawaii: The role of satellitic shields in Kilauea's recent evolution (abs.): NASA TM 79729, p. 192-193.
- Dzurisin, D., 1978, Planetary studies of Kilauea Volcano, Hawaii: Wind action in the Kau Desert (abs.): NASA TM 79729, p. 214-215.
- Dzurisin, D., Casadevall, T., and Stoiber, R., 1979, Terrestrial volcanic outgassing: Implications for martian atmospheric evolution and surface geology (abs.): NASA Conf. Pub. 2072, p. 25.
- Greeley, R., and Spudis, P.D., 1978, Mare volcanism in the Herigonius region of the Moon: Proc. Lunar Planet. Sci. Conf. 9th, p. 3333-3349.
- Greeley, R., and Spudis, P.D., 1978, Ridges in western Columbia plateau. Washington - Analogs to mare-type ridges (abs.): in Lunar Planet. Sci. IX, p. 411-412. The Lunar and Planetary Inst., Houston, Texas.

- Greeley, R., and Spudis, P.D., 1978, Volcanism in the cratered terrain hemisphere of Mars: *Geophys. Res. Lett.*, v. 5, no. 6, p. 453-455.
- Greeley, R., and Spudis, P.D., and Womer, M.B., 1978, The patera of Mars - a unique style of planetary volcanism (abs.): *EOS*, v. 59, p. 310.
- Greeley, R., and Theilig, E., 1978, Small volcanic constructs in the Chryse Planitia region of Mars (abs.): in Report of Planetary Geology Program, 1978-1979, NASA TM 79729, p. 202.
- Greeley, R., and Gault, D.E., 1979, Endogenic craters on basaltic lava flows: size frequency distributions: *Proc. Lunar Sci. Conf. 10th*, in press.
- Greeley R., Peterfreund, A.R., Guest, J.E., and Tilling, R., 1979, Means for detection of basaltic fissure vents: The 1823 Keaiwa flow, Hawaii: NASA TMX, in press.
- Greeley, R., Ward, A.W., Peterfreund, A.R., Snyder, D.B., and Womer, M.B., 1979, Mars landing site analysis: Arsia Mons West, a young volcanic site and Chryse Planitia (abs.): NASA TM, in press.
- Hawke, B. R., and Head, J.W., 1978, Lunar KREEP volcanism. Geologic evidence for history and mode of emplacement: *Geochimica et Cosmochimica Acta*, Suppl. 9, p. 3285-3309.
- Head, J. W., 1979, Lava flooding of early planetary crusts: geometry, thickness and volumes of flooded impact basins (abs.): *Lunar and Planetary Science X*, 516-518.
- Head, J. W., 1979, Lava flooding of early planetary crusts: Geometry thickness, and volumes of flooded lunar highland terrain (abs.): *Lunar and Planetary Science X*, 519-521.
- Head, J. W., and Wilson, L., 1979, Alphonsus-type dark-halo craters: morphology, morphometry, and eruption conditions (abs.): *Lunar and Planetary Science X*, 523-525.
- Hodges, C. A., 1979, Some lesser volcanic provinces on Mars: Reports of Planetary Geology Program, 1978-1979 (abs.): in press.

- Malin, M. C., 1978, Surfaces of Mercury and the Moon: Effects of Resolution and Lighting Conditions on the Discrimination of Volcanic Features: Proc. Lunar Planet. Sci. Conf. 9th, 3, 3395-3409.
- Malin, M. C., Evans, D., and Elachi, C., 1978, Imaging Radar Observations of Askja Caldera, Iceland: Geophys. Res. Lett. 5, 931-934.
- McGetchin, T. R., and Chouet, B. A., 1979, Energy budget of the volcano Stromboli, Italy: Geophys. Res. Lett., v. 6, 317-320.
- McGetchin, T. R., and McCord, T. B., 1979, Workshop on Remote Sensing of Volcanic Gases: Current Status and Future Directions: Lunar and Planetary Institute, Houston, 71 p.
- McGetchin, T. R., and Smyth, J. R., 1978, The mantle of Mars: Some possible implications of its high density. Icarus, v. 34, 512-536
- Moore, H. J., Arthur, D. W. G., and Schaber, G. G., 1978, Yield strengths of flows on the Earth, Moon and Mars (abs.): Lunar and Planetary Science, IX, The Lunar and Planetary Inst., p. 750-751.
- Moore, H. J., Arthur, D. W. G., and Schaber, G. G., 1978, Yield Strengths of flows on the Earth, Mars and Moon: Proc. Lunar and Planet. Sci. Conf. 9th, Suppl. 9, Geochim. et Cosmochim. Acta, p. 3351-3378.
- Moore, H.J., Liebes, Jr. S., Crouch, D.S., and Clark, L.V., 1978, Rock Pushing and Sampling Under Rocks on Mars: Geological Survey Professional Paper 1081.
- Moore, H. J., 1979, Yield strengths of diverse flows on the flanks of Elysium, Ascraeus, and Arsia Montes, Mars (abs.): Reports of Planetary Geology Program, 1978-1979, in press.
- Mouginis-Mark, P. J., 1978, Piton de la fournaise, Reunion Island: A photographic survey and analysis of parasitic cone morphology: Submitted to Bulletin Volcanologique.

- Mouginis-Mark, M. J., 1979, Recent flank activity at piton de la Fournaise, Reunion Island: Submitted to Hawaii Symposium on Intraplate Volcanism and Submarine Volcanism, Hilo, HI.
- Pike, R. J., 1978, Volcanoes on the inner planets: Some preliminary comparisons of gross topography: Proc. Lunar Planetary Sci. Conf. 9th, p. 3239-3273.
- Plescia, J. B., and Saunders, R. S., 1979, Evolution of the Martian volcanoes (abs.): NASA Technical Memorandum 80339, p. 241-243.
- Plescia, J. B., and Saunders, R. S., 1979, Geologic evolution of the Tharsis volcanoes (abs.): Lunar and Planetary Science X Abstracts, p. 989-991.
- Plescia, J. B., and Saunders, R. S., 1979, The chronology and evolution of the martian volcanoes (abs.): Submitted to the 10th Lunar and Planetary Science Conf. Proc.
- Plescia, J. B., and Saunders, R. S., 1979, The rheologic properties of Arsia Mons lavas (abs.): NASA Technical Memorandum 79729, p. 199-201.
- Reimers, C. E., and Komar, P. D., 1979, Evidence of explosive volcanic density currents on certain Martian volcanoes: Icarus, in press.
- Saunders, R. S., 1979, Characterization and evolution of volcanic landforms, Tenth Lunar and Planetary Science Conference, A Summary of Topic III: Submitted to Geotimes.
- Saunders, R. S., Roth, L. E., Elachi, C., and Schubert, G., 1978, Topographic Control of Volcanism and Surface Morphology in the Arsia Mons Region of Mars (abs.): Lunar and Planet. Sci. IX, p. 996-998, Lunar and Planetary Institute, Houston, TX.
- Schaber, G. G., Horstman, K. C., and Dial, A. L., 1978, Lava flow materials in the Tharsis Region of Mars: Proc. Lunar and Planet. Sci. Conf. 9th Geochim. et Cosmochim. Acta, suppl. 9, p. 3433-3458.
- ⊙
- Schaber, G. G., Horstman, K. C., and Dial, A. L., 1979, The distribution and eruptive history of lava flow materials - Tharsis Region of Mars (abs.): in Lunar and Planet. Sci. X, Abstracts of papers submitted, to the Tenth Lunar and Planet. Sci. Conf., The Lunar and Planet., Inst. Houston, TX, p. 1002-1003.

- Schaber, G. G., Horstman, K. C., and Johnson, D. A., 1979, Viking photography: Assessment of Mars radar roughness (abs.): in Lunar Sci. X, Abstracts of papers submitted to the Tenth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 1058-1060.
- Schaber, G. G., Elachi, Charles and Farr, Tom, Remote sensing data of SP Mountain and SP lava flow in north-central Arizona: J. Remote Sensing of Environ., in press.
- Schultz, P. H., and Spudis, P. D., 1978, The dark ring of Orientale: implications for pre-basin mare volcanism and a clue to the identification of the transient cavity rim (abs.): in Lunar Planet. Sci. IX, p. 1033-1035, The Lunar and Planetary Inst., Houston, TX.
- Schultz, P. H., and Spudis, P. D., 1979, Evidence for ancient mare volcanism: Proc. Lunar Planet. Sci. Conf. 10th, in press.
- Schultz, P. H., Spudis, P. D., and Sellers, D., 1979, Evidence for ancient lunar basalts (abs.): in Lunar Planet. Sci. X, p. 1084-1086, The Lunar and Planetary Inst., Houston, TX.
- Scott, D. H., Schaber, G. G., Horstman, K. C., and Dial, A. L., Lava flows in Tharsis Montes (abs.): in Accomplishments of Planet. Geol. Prog., 1978-1979, NASA TM, in press.
- Settle, M., 1978, Volcanic eruption clouds and the thermal power output of explosive eruptions: J. Volcan. Thermal Res. 3, 309-324.
- Settle, M., 1978, Characteristics of terrestrial cinder cone fields: NASA TM-79729, p. 186-188.
- Settle, M. and McGetchin, T. R., 1978, Statistical analysis of persistent explosive activity at Stromboli, 1971: Implications for eruption prediction: Submitted to J. Volcan. Thermal Res.
- Settle, M., 1979, Thermal budgets of basaltic lava flows: Submitted to Hawaii Symposium on Intraplate Volcanism and Submarine Volcanism, Hilo, HI. G
- Settle, M., 1979, Lava rheology: Newtonian suspension model for lava flow behavior at high shear rates: Lunar and Planetary Science X, 1104-1106.

- Settle, M., 1979, Lava rheology: thermal buffering produced by the latent heat of crystallization: Lunar and Planetary Science X, 1107-1109.
- Settle, M., 1979, Dispersion and deposition of volcanic aerosols on Mars: Lunar and Planetary Science X, 1101-1103.
- Settle, M., 1979, Production of volcanic sulfate aerosols on Mars: Lunar and Planetary Science X, 1110-1112.
- Spudis, P. D., 1979, The extent and duration of lunar highland volcanism (abs.): in Reports of Planetary Geology Principal Investigators, NASA Tech. Memo, in press.
- Solomon, S. C., On volcanism and thermal tectonics on one-plate planets: Geophys. Res. Lett; v. 5, no. 6, p. 461-464.
- Whitford-Stark, J. L., 1979, The Cenozoic volcanism of central and eastern mainland Asia excluding Kamchatka: Eruption styles: Submitted to Hawaii Symposium on Intraplate Volcanism and Submarine Volcanism, Hilo, HI.
- Whitford-Stark, J. L., 1979, Plateau basalts and shield volcanoes of eastern Asia: Submitted to Hawaii Symposium on Intraplate Volcanism and Submarine Volcanism, Hilo, HI.
- Wilson, L. and Head, J. W., 1979, Lunar volcanic cones and dark mantling deposits: Consequences of patterns of volatile release: Lunar and Planetary Science X, 1353-1355.
- Wilson, L., and Head, J. W., 1979, Ascent of magma with volatiles on the Earth and Moon: Lunar and Planetary Science X, 1350-1352.
- Wolfe, R. W., 1978, Olympus Mons aureole: Possible evidence of the antiquity of Olympus Mons (abs.): American Astronomical Society, Division of Planetary Sciences Mtg.
- Wood, C. A., 1978, Morphometric evolution of composite volcanoes: Geophys. Res. Lett. 5, 437-439.
- Wood, C. A., 1978, Evolution of composite volcanoes: NASA TM-79729 p. 189-191.

- Wood, C. A., 1979, Cinder Cones on Earth, Mars, and Moon: Lunar Planet. Sci. X, p. 1370-1372.
- Wood, C. A., 1979, Venusian Volcanism: Environmental Effects on Style and Landforms, in press.
- Wood, C. A., 1979, Morphometric Evolution of Cinder Cones: J. Volcan. Geother. Res., in press.
- Wood, C. A., 1979, Monogenetic Volcanoes of the Terrestrial Planets: Proc. Lunar planet. Sci. Conf. 10th, in press.

IMPACT CRATER STUDIES

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IMPACT CRATER STUDIES

- Abdel-Rahman, M. A., El-Etr, H. A., El-Baz, and Hamdan, A. H., 1979, Statistical analysis of craters in the equatorial belt of the near side of the Moon: Fourth Conf. on Statis., Comp. Sci. and Soc. Res. 25-29 March 1979, Ain Shams University, Cairo, p. 351-399.
- Allen, C. C., 1979, Large lunar secondary craters: Size-range relationships: Geophysical Research Letters, v. 6, no. 1, p. 51-54.
- Allen, C. C., 1979, Areal distribution of Martian rampart craters: Icarus, in press.
- Arthur, D. W. G., The depths of Martian impact craters: in preparation.
- Boyce, J. M., 1978, Ages of flow units in the far eastern maria based on crater density (abs.): in Trans. Am. Geophys. Union EOS, in press..
- Boyce, J. M., 1978, Ages of flow units in the far eastern maria based on crater density: U.S. Geological Survey Interagency Report, Astrogeology 80, 52 p.
- Boyce, J. M., 1978, The use of impact crater studies in determining the chronology of planetary surfaces (abs.): in European Planetary Consortium, p. 8-10.
- Boyce, J. M., 1979, Martian subsurface permafrost: Evidence from impact craters (abs.): in Second International Colloquium on Mars, NASA Conference Publication 2072, p. 8-9.
- Boyce, J. M., 1979, Emplacement of permafrost ice layers in young Martian terraines: Evidence from impact craters (abs.): in Lunar and Planetary Science X, The Lunar and Planetary Institute, Houston, TX, Pt. 1, p. 150-151.
- Boyce, J. M., 1979, Correlation of remote sensing data and crater density ages of flow units in the far eastern lunar maria (abs.): NASA TM-80339, p. 82-83.

- Boyce, J. M., 1979, Diameter enlargement effects on crater populations resulting from impact into wet or icy targets (abs.). NASA TM-80339, p. 119-122.
- Carr, M. H., 1978, Distribution and emplacement of ejecta around Martian impact craters: in Impact and explosion Cratering, Roddy, D. J., Pepin, R. O., and Merrill, R. B., eds, Pergamon Press, N.Y., p. 593-602.
- Chapman, C. R., Aubele, J., Roberts, W. J., and Cutts, J., 1979, Sub-kilometer lunar craters: Origins, ages, processes of degradation, and implications for mare basalt petrogenesis (abs.): Lunar and Planetary Science X, 190-191.
- Cintala, M. J., Head, J. W., and Wilson, L., 1979, The nature and effects of impact cratering on small bodies: Submitted to Asteroids and Planet X, Tucson, AZ.
- Cintala, M. J., and Head, J. W., 1979, Mercurian crater rim heights and some interplanetary comparisons: Lunar and Planetary Science X, 204-206.
- Cole, R. L., and De Hon, R. A., 1979, The origin of outer rings around lunar basins: Lunar and Planetary Science X, 227-228.
- De Hon, R. A., 1978, In search of ancient astroblemes. Mercury: Reports of Planet. Geol. Program, NASA Tech. Mem. 79729, p. 150-152.
- De Hon, R. A., 1979, Basic geomorphic concepts applied to planetary cratering: Reports of Planet. Geol. Program, NASA Tech. Mem., in press.
- Dial, A. L., Jr., 1978, The Viking 1 landing site crater diameter-frequency distribution (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729.
- Ferguson, J., Brett, R., Milton, D. J., Dence, M. R., Simonds, C. H., and Taylor, S. R., 1978, Strangways cryptoexplosion structure, northern territory, Australia, preliminary results: Meteoritics, v. 13, 459-460.
- Gault, R. E., and Greeley, R., 1979, Exploratory experiments of impact craters formed in viscous-liquid targets: Analogs for Martian rampart craters? Icarus, v. 34, p. 486-495.

- Gifford, A. W., and Maxwell, T. A., 1979, Topographic effects on slumped craters in the lunar highlands (abs.): Lunar and Planetary Science X, LPI, Houston, p. 431-433.
- Gifford, A. W., and Maxwell, T. A., 1979, Scalloped craters in the lunar highlands: Influence of pre-impact topography and structure: Submitted to Proc. 10th Lunar Planet. Sci. Conf.
- Gifford, A. W., Maxwell, T. A., and El-Baz, F., 1979, Geology of the lunar farside crater Necho: The Moon and the Planets, in press.
- Hale, W., and Head, J. W., 1979, Central peaks in lunar craters: morphology and morphometry: Lunar and Planetary Science X, 491-493.
- Hall, J. L., Head, J. W., and Solomon, S. C., 1979, Lunar floor fractured craters: Quantitative tests of hypotheses for their origin (abs.): in Reports of Planetary Geology Program, 1978-1979, NASA TM, in press.
- Hawke, B. R., and Head, J. W., 1978, Impact melt volumes in and around lunar craters: Meteoritical Soc. Annual Meeting, Sudbury, Ont.
- Hawke, B. R., and Head, J. W., 1979, Impact melt volumes associated with lunar craters: Lunar and Planetary Science X, 510-512.
- Head, J. W., 1978, Serenitatis multi-ringed basin: Regional geology and basin ring interpretation: Submitted to The Moon and the Planets.
- Head, J. W., 1979, Serenitatis multi-ringed basin: Regional geology and basin ring interpretation: Lunar and Planetary Science X, 522-524.
- Hiller, K., and Neukum, G., 1979, Surface ages of Martian volcanoes and erosional features: Submitted to Proceedings X, LPSC, Houston.
- Hodges, C. A., 1978, Central pit craters, peak rings, and the Argyre basin: NASA Tech. Mem. 79729, Reports of Planetary Geology Program, 1977-1978, R. Strom and J. Boyce, compilers, p. 169-171.

- Johanson, L., 1979, The latitude dependence of Martian splash cratering and its relationship to water: NASA Technical Memorandum 80339, p. 123-125.
- Lucchitta, B. K., 1979, Camelot and crater clusters, Apollo 17: Icarus, v. 37, no. 1, p. 46-50.
- King, J. S., and Scott, D. H., 1978, The significance of buried craters associated with basins on the Moon and Mars (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 153-157.
- Masursky, H., Dial, A. L., and Strobell, M. E., Relative ages of Martian volcanic centers, channels, plateau deposits, and upland terrains based on Viking data and comparison under crater counts on the Moon and Mercury: in Lunar and Planet. Sci. X, Abstracts of papers submitted to the Tenth Lunar and Planet. Sci. Conf., The Lunar Sci. Inst., Houston, TX, p. 781-782.
- Maxwell, T. A., 1978, Origin of multi-ring basin ridge systems: An upper limit to elastic deformation based on a finite-element model: in Proc. Ninth Lunar and Planetary Science Conference, LPI, Houston, p. 3541-3559.
- Maxwell, T. A., and El-Baz, F., 1978, The nature of rays and sources of highland material in Mare Crisium: in Mare Crisium: The view from Luna 24, LPI, Houston, p. 89-103.
- Moore, H. J., Boyce, J. M., and Johnson, D. A., 1979, Lunar impact cratering in recent times: The Moon and Planets, in press.
- Mouginis-Mark, P. J., 1978, Effects of subsurface volatiles on the formation of Martian impact craters: photogeological and theoretical considerations: Second Colloquium on Planetary Water and Polar Processes, 73-75.
- Mouginis-Mark, P. J., 1979, Meltwater generation on Mars as a product of thermal evolution of ejecta blankets: Lunar and Planetary Science X, 867-869.
- Mouginis-Mark, P. J., 1979, Rampart crater formation on Mars: Second Internat. Colloquium on Mars, Pasadena, CA.
- Mouginis-Mark, P. J., and Head, J. W., 1979, Emplacement of Martian rampart crater ejecta blankets: A morphological analysis: Lunar and Planetary Science X, 870-872.

- Neukum, G., Hiller, K., Henkel, J., and Bodechtel, J., 1978, Mars chronology (abs.): Reports of Planetary Geology Program 1977-1978, Tucson, TM 79729.
- Neukum, G., Hiller, K., Henkel, J., and Bodechtel, J., 1978, Martian ages (abs.): EPGC Symposium, Paris.
- Neukum, G., Hiller, K., Henkel, J., and Bodechtel, J., 1979, Surface ages of Martian shield volcanoes and channels (abs.): LPSC X, Lunar Science Institute, Houston.
- Neukum, G., Hiller, K., 1979, Martian ages: Submitted to Journ. Geophys. Res.
- Pike, R. J., 1978, Lunar landscape morphometry: U.S. Geol. Survey Open-file report # 79-812, 142 p.
- Pike, R. J., 1978, A geomorphic threshold for impact craters on the terrestrial planets (abs.): Program and Abstracts, Ninth Annual Geomorphology Symposium, SUNY, Binghamton, p. 20.
- Pike, R. J., and Arthur, D. W. G., 1979, Simple to complex impact craters: The transition on Mars (abs.): Reports of Planetary Geol. Program, 1978-1979, NASA Tech. Memo., in press.
- Pike, R. J., 1979, Apollo 15-17 Orbital Investigations - Geometric interpretation of lunar craters: U.S. Geol. Survey, Prof. Paper 1046 C, in press.
- Roddy, D. J., 1978, Cratering motions for bowl-shaped impact craters: A phenomological sequence of events (abs.): in Lunar and Planet. Sci. IX, Abstracts of papers submitted to the Ninth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, p. 967-969.
- Roddy, D. J., 1978, Pre-impact geologic conditions, physical properties, energy calculations, meteorite and initial crater dimensions and orientations of joints, faults and walls at Meteor Crater, Arizona: Proc. Lunar and Planet. Sci. Conf. 9th., Geochim. et Cosmochim. Acta, v. 3, Suppl. 10, p. 3891-3930.
- Roddy, D. J., 1979, Current drilling and structural studies at the Flynn Creek impact crater, Tennessee: Proc. Lunar and Planet. Sci. Conf. 10th, p. 1031-1032.

- Roddy, D. J., Kreyenhagen, K., and Schuster, Shel, 1978, Cratering motions for bowl-shaped (Meteor Crater, Arizona, Type) impact craters (abs.): in Am. Geophys. Mtg., Miami Beach, FL, EOS, Trans, AGU, v. 59, no. 4, p. 313.
- Roddy, D. J., Arthur, D. W. G., Boyce, J. M., Morris, E. C, and Pike, R. J., 1979, Global inventory of selected Martian impact craters: Preliminary Report (abs.): NASA TM-80339, p. 185-186.
- Roddy, D. J., Arthur, D. W. G., Boyce, J. M., Pike, R. J., Soderblom, L. A., 1979, Martian impact cratering: Preliminary Report (abs.): NASA TM-80339, P. 187-188.
- Roth, L. C., Elachi, C., and Saunders, R. S., 1978, Radar profiles and the depth/diameter ration of large Martian craters: NASA Technical Memorandum 79729, p. 132-134.
- Roth, L. E., Elachi, C., Saunders, R. S., and Schubert, G., Radar Depths of Large Martian Craters: Lunar and Planet. Sci. IX, p. 976-978, Lunar and Planetary Institute, Houston, TX.
- Saunders, R. S., and Gregory, T., 1978, Crater density determinations in the Tharsis region of Mars: NASA Technical Memorandum 79729, p. 178.
- Saunders, R. S., Roth, L. E., and Elachi, C., 1978, Topographic confirmation of 500 km degraded crater north of Ladon Valles, Mars: NASA Technical Memorandum 79729, p. 157-159.
- Schaeffer, O. A., Nagel, K., Neukum, G., and Fechtinig, H., 1979, Effects of micrometeorite bombardment on cosmic ray ages of stony and iron meteorites: Evidence for a long term temporal change in cosmic ray intensity (abs.): LPSC X, Lunar Science Institute, Houston.
- Settle, M., 1978, The role of fallback ejecta in the modifiation of impact craters: Submitted to Icaurs.
- Settle, M., Cintala, M. J., and Head, J. W., 1978, Emplacement of Fahrenheit crater ejecta at the Lunar 24 site: The Moon and the Planets, in press.
- Settle, M., 1979, Volume of impact crater fallback ejecta on the Earth, Moon and Venus: Lunar and Planetary Science X, 1113-1115.

- Smith, E. I., and Hartnell, J. A., 1978, Crater shape-size profiles for fresh craters on the Moon and Mercury (abs.): NASA Tech. Memo. 79729, p. 147-149.
- Smith, E. I., and Hartnell, J. A., 1978, Crater size-shape profiles for the Moon and Mercury: Terrain effects and interplanetary comparisons: Moon and Planets, v. 19, p. 479-511.
- Underwood, J. R., Jr., and Fisk, E. P., 1978, Meteorite impact structures, southeast Libya (abs.): Second Symposium on the Geology of Libya, Tripoli, September 16-21, 1978, p. 61-62.
- Walker, A. S., and El-Baz, F., 1979, Analysis of craters on the floor of Aitken (abs.): Lunar and Planetary Science X, LPI, Houston, p. 1271-1273.
- Watkins, J. A., and Boyce, J. M., 1979, The relation of lunar highland plains and terra to basin forming event (abs.): in Lunar and Planetary Science X, The Lunar and Planetary Science Institute, Houston, Texas, Pt. 3, p. 1313-1315.
- Whitford-Stark, J. L., 1978, Studies of wall morphologies of lunar craters: Meteoritical Soc. Annual Meeting, Sudbury, Ont.
- Wilhelms, D. E., Oberbeck, V. R., and Aggarwal, H. R., 1978, Size-frequency distributions of primary and secondary lunar impact craters: Proceedings of 9th Lunar and Planetary Science Conference, Geochimica et Cosmochimica Acta, suppl. 10, p. 3735-3762.
- Wilhelms, D. E., 1979, Relative ages of lunar basins (abs.): Reports of Planetary Geology Program, 1978-79, in press.
- Wood, C. A., 1978, Lunar concentric craters: Lunar Planet. Sci. IX, p. 1264-6.
- Wood, C. A., Cintala, M. J., 1978, Interior morphometry of fresh Martian craters: Preliminary Viking results: Lunar Planet. Sci. IX, p. 1270-2.
- Wood, C. A., and Andersson, L., 1978, Lunar Crater Morphometry: New Data: Lunar Planet. Sci. IX, p. 1267-9.

- Wood, C. A., Head, J. W., and Cintala, M. J., 1978, Interior morphometry of fresh Martian craters: The effects of target characteristics: *Geochimica et Cosmochimica Acta*, Suppl. 9, p. 3691-3709.
- Wood, C. A., and Andersson, L., 1978, New morphometric data for fresh lunar craters: *Geochimica et Cosmochimica Acta*, Suppl. 9, p. 3669-3689.
- Wood, C. A., 1979, Crater Degradation through lunar history: *Lunar Planet. Sci. X*, p. 1373-1375.
- Woronow, A., 1978, A general cratering-history model and its implications for the lunar highlands, *Icarus*, v. 34, p. 76-88.
- Woronow, A., 1978, The expected frequency of doublet craters: *Icarus*, v. 34, p. 324-330.
- Woronow, A. 1978, A reply to V. R. Oberbeck's Criticisms of The Expected Frequency of Doublet Craters: *Icarus*, v. 35, p. 452-453.
- Woronow, A., 1979, An analysis of crater classes of the Moon and Mars. *Icarus*, in press.
- Wright, M. B., and De Hon, R. A., 1979, Basins of the circum-Caloris region of Mercury: Reports of the Planetary Geology Program, NASA Tech. Mem., in press.

EOLIAN STUDIES

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- Arvidson, R. E., 1978, Viking implications for Martian aeolian dynamics (abs.): NASA Tech. Mem. 79729, pp. 238-240.
- Arvidson, R. E., Guinness, E. S., Lee, S., 1979, Differential aeolian redistribution rates on Mars: Nature, v. 278, pp. 533-535.
- Blom, R. G., Daily, M., Elachi, C., and Saunders, R. S., 1979, Analysis of Seasat SAR images of sand dunes (abs.): NASA Technical Memorandum 80339, p. 359-361.
- Breed, C. S., and Breed, W. J., 1978, Field studies of sand-ridge dunes in central Australia and northern Arizona (abs.): NASA TM 79729, 216-218.
- Breed, C. S., Ward, A. W., and McCauley, J. F., 1978, Windform patterns on Earth and on Mars: Implications for similarities of eolian processes on two planets (abs.): NASA 79729, 228-229.
- Breed, C. S., 1979, Morphology and distribution of dunes in sand seas observed by remote sensing: in A study of global sand seas (E. D. McKee, ed.): U. S. Geological Survey Professional Paper 1052, in press.
- Breed, C. S., and Breed, W. J., 1979, Dunes and other windforms of central Australia (and a comparison with linear dunes on the Moenkopi Plateau, Arizona): in Earth Observations and Photography - Apollo Soyuz Test Project Summary Science Report, v. 2 (Frouk El-Baz and D. M. Warner, eds.): NASA SP-412, in press.
- Breed, C. S., Embabi, N., El-Etr, H. and Grolner, M. J., 1979, Wind deposits in the Western Desert Egypt: in El-Baz et al., Journey to the Gif Kebir and Uweinat, Southwest Egypt, 1978, Geographical Journal, in press
- Breed, C. S., Fryberger, S. G., Andrews, Sarah, McCauley C. K., Lennartz G., Gebel, D, and Horstman, K., 1979, Regional studies of dunes in sand seas observed by remote sensing: in A global study of sand seas (E. D. McKee, ed.): U. S. Geological Survey Professional Paper 1052, in press.

- Breed, C. S., Grolier, M. J., McCauley J. F., and Collins, P. S., 1979. The North Polar dunes on Mars: Comparison with sand seas on Earth: Journal of Geophysical Research, in press.
- Breed, C. S., McCauley, J. F., Breed, W. J., Cotera, A. S., and McCauley, C. K., 1979: Eolian landscapes: in Landscapes of Arizona, The Geologic Story, University of Arizona Press (Terah Smiley and others, eds.), in press.
- Breed, C. S., McCauley, J. F., Grolier, M. J., and Witbeck, N., 1979, Eolian depositional features in the Western Desert of Egypt: Comparison with Mars (abs.). NASA TM, in press.
- Breed, C. S., and Ward, A. W., 1979, Longitudinal dunes on Mars (abs.): Second Intl. Colloq. on Mars, NASA Conference Publication 2072, p. 10.
- Brown, W. D., and Saunders, R. S., 1978, Radar backscatter from sand dunes (abs.): NASA Technical Memorandum 79729, p. 137.
- El-Baz, F., 1978, Analogs of Martian eolian features in southwestern Egypt: 21st Meeting of the Committee on Space Research, Innsbruck, Austria, 16 p.
- El-Baz, F., 1979, Wind erosion in Egypt's Oweinat Mountain and implications to eolian erosion on Mars (abs.): in Second Intl. Colloq. on Mars, NASA Conf. Pub. 2072, p. 26.
- El-Baz, F., 1979, Clones of Martian light- and dark-colored streaks in the southwestern desert of Egypt (abs.): in Second Intl. Colloq. on Mars, NASA Conf. Pub. 2072, p. 26.
- El-Baz, F., Breed, C. S., Grolier, M. J., and McCauley, J. F., 1979. Analogs of Martian eolian features in the western desert of Egypt: Journal of Geophysical Research, in press.
- El-Baz, F., and Maxwell, T. A., 1979, Comparison of desert formations in southwestern Egypt with similar features on Mars: Tenth Lunar and Planetary Science Conf., LPI, Houston, p. 13-18.
- El-Baz, F., and Maxwell, T. A., 1979, Eolian streaks in southwestern Egypt and similar features in the Cerberus region of Mars. Submitted to Proc. 10th Lunar Planet. Sci. Conf.

- El-Baz, F., and Maxwell, T. A., 1979, Wind streaks in the southwestern desert of Egypt: Topographic influences and Martian analogies (abs.): NASA TMX, in press.
- El-Baz, A., and Maxwell, T. A., 1979, Eolian landforms in southwestern Egypt: Implications for surface processes on Mars (abs.): Lunar and Planetary Science X, LPI, Houston, p. 349-351.
- Greeley, R., 1978, Mars: A model for the formation of dunes and related structures (abs.): in Reports of Planetary Geology Program, 1978-1979, NASA TM 79729, p. 244-245.
- Greeley, R., 1978, Planetary Geology field conference on aeolian processes (abs.), in Reports of Planetary Geology Program, 1978-1979, NASA TM 79729, P. 337.
- Greeley, R., and Leach, R., 1978, A preliminary assessment of the effects of electrostatics on aeolian processes (abs.): in Reports of Planetary Geology Program, 1978-1979, NASA TM 79729, p. 236-237.
- Greeley, R., Papson, R., and Veverka, J., 1978, Crater streaks in the Chryse Planitia region of Mars: Early Viking results: Icarus, v. 78, p. 556-557.
- Greeley, R., 1979, A model for the formation of windblown sand-size particles and related structures on Mars (abs.): in Intern. Coll. on Mars II, NASA Confr. Publ. 2072, p. 32.
- Grolier, M. J., Breed, W. J., McCauley, J. F., and Breed, C. S., 1979 Eolian processes in the polar regions, Earth and Mars (abs.): Proceedings, 2nd Colloquium on Planetary Water and Polar Processes, Hanover, New Hampshire, Oct. 1978: 203-204.
- Grolier, M. J., McCauley, J. F., Breed, C. S., and El-Baz, F., 1979 Yardangs of the western desert of Egypt (abs.): NASA TM in press.
- Grolier, M. J., McCauley, J. F., Breed, C. S., and Embabi, N. S., 1979, Yardangs of the western desert: in El-Baz, F., et al., Journey to the Gilf Kebir and Uweinat, Southwest Egypt, 1978, Geographical Journal in press.

- Howard, A. D., Morton, J. B., Gad-el-Hak, M., and Pierce, D., 1978, Sand transport model of barchan dune equilibrium: *Sedimentology*, v. 25, p. 307-338.
- Howard, A. D., 1978, Three topics on the mechanics of dunes (abs.): Rept. Planetary Geology Prog., 1977-1978, NASA Tech. Mem. 79729, p. 231-233.
- Iversen, J. D., 1978, Comparison of model and full-scale experiments near a broad boundary-layer obstruction: Paper II-22, Proceedings, 3rd Natl. Conf. on Wind Engineering Res. Gainesville, Florida.
- Iversen, J. D., and Greeley, R., 1978, Wind tunnel and field experiments of Amboy Crater - a terrestrial analog to Martian crater-associated dark streaks (abs.): in Reports of Planetary Geology Program, 1978-1979, NASA TM 79729, p. 222-224.
- Krinsley, D., and Greeley, R., 1978, Surface textures of sand sized particles abraded under Earth and Martian conditions (abs.): in Reports of Planetary Geology Program, 1977-1978, NASA TM 79729, p. 225-227.
- Krinsley, D., Greeley, R., and McKee, T., 1979, Simulated aeolian abrasion of quartz and basalt under Martian conditions (abs.): in Intern. Coll. on Mars II, NASA Conf. Publ. 2072, p. 49.
- Krinsley, D., Greeley, R., and Pollack, J. B., 1979, Abrasion of windblown particles on Mars - erosion of basaltic sand under simulated Martian conditions: *Icarus*, submitted.
- Krinsley, D., and Leach, R., 1979, Simulated Martian aeolian abrasion of glassy basalt and augite (abs.): NASA TM, in press.
- Krinsley, D., and Leach, R., Greeley, R., and McKee, T., 1979, Simulated Martian aeolian abrasion and the creation of "aggregates" (abs.): NASA TM, in press.
- Maxwell, T. A., and El-Baz, F., 1979, Grain size characteristics of eolian deposits in southwestern Egypt (abs.): Implications for the surface of Mars: NASA TMX, in press.

- McCauley, J. F., Breed, C. S., Grolier, M. J., and Collins, P. S., 1979, The eolian features of the north polar region of Mars (abs.): 2nd International Colloquium on Mars, Pasadena, CA, Jan. 1979, NASA Conference Publication 2072, 55.
- McCauley, J. F., Breed, C. S., Grolier, M. J., El-Baz, F., 1979. Pitted rocks and other ventifacts in the western desert: in El-Baz, F., et al., 1979, Journey to the Gifl Kebir and Uweinat, Southwest Egypt, 1978, Geographical Journal in press.
- McCauley, J. F., Breed, C. S., Grolier, M. J., Whitney, M. I., Ward, A. W., and Greeley, R., 1979, Wind tunnel simulation studies of airflow patterns around pitted and fluted ventifacts from the western desert of Egypt (abs.): NASA TM in press.
- McCauley, J. F., El-Baz, F., Grolier, M. J., Breed, C. S., Whitney, M. I., Ward, A. W., and Greeley, R., Pitted and fluted rocks in the western desert of Egypt - Viking comparisons: Journal of Geophysical Research in press.
- McKee, T., and Krinsley, D., 1978, Clay sized quartz produced by crushing (abs.): Ninth In. Congr. Electr. Micr., v. I, ed, J. Sturgis, p. 486-487, Toronto, Canada.
- McKee, T., Greeley, R., and Krinsley, D., 1979, Material removal and production of fines during aeolian erosion of minerals: Mars and Earth (abs.): NASA TM, in press.
- McKee, T. R., Krinsley, D., and Greeley, R., 1979, Production Mechanism of quartz silt and clay during aeolian erosion (abs): Clay Minerals Society Annual Meeting, Program and abstracts, Macon, Georgia, in press.
- McKee, T., Greeley, R., and Krinsley, D., 1979, Simulated aeolian erosion of quartz: Proceedings Thirty-Seventh Annual EMSA Meeting, in press.
- Pollack, J. B., Colburn, D. S., Flasar, R. M., Kahn, R., Carlston, C. E., and Pidek, D., 1979, Properties and effects of dust particles suspended in the Martian atmosphere, J. Geophys. Res., in press.
- Saunders, R. S., and Hunter, W. A., 1978, Garnet Hill eolian studies (abs.): NASA Technical Memorandum 79729, p. 211-213.

- Smalley, I. J., and Krinsley, D., 1979, Aeolian sedimentation on Earth and Mars: Some Comparisons: *Icarus*, submitted.
- Smith, R. S. U., 1978, Wind-deposited sand atop terrestrial boulders: Possible significance for the Viking Lander 1 site on Mars (abs.): NASA Tech. Memo. TM 7929, p. 234-4.
- Smith, R. S. U., 1978, Actual versus inferred wind regime of dunes: A test in the Algodones dune chain, southeastern California (abs.): *Geol. Soc. America Abstr. Programs*, v. 10, p. 494-5.
- Smith, R. S. U., 1979, Wind regime of dunes in Imperial Valley, California (abs.): NASA Tech. Memo., in press.
- Squyres, S., 1978, Martian Fretted Terrain: Flow of Erosional Debris: *Icarus*, v. 34, pp. 600-613.
- Squyres, S., 1979, Evolution of Eolian Deposits in the Martian North Polar Region: *Icarus*, in press.
- Thomas, P., Veverka, J., and Campos-Marquetti, R., 1979, Frost Streaks in the South Polar Cap of Mars: *J. Geophys. Res.*, in press.
- Thomas P., and Veverka, J., 1979, Seasonal and secular variations of wind streaks on Mars: An analysis of Mariner 9 and Viking data: *J. Geophys. Res.*, in press.
- Tsoar, H., Greeley, R., Papson, R., and Squyres, S., 1979, Sand dunes of the north polar region of Mars: Mapping and analysis (abs.): in *Lunar Planet. Sci. X*, p. 1242-1244, The Lunar and Planetary Inst., Houston, Texas.
- Tsoar, H., Greeley, R., and Peterfreund, A. R., 1979, Mars: The north polar sand sea and related wind patterns: *J. Geophys. Res.*, submitted.
- Tsoar, H., Greeley, R., and Peterfreund, A. R., 1979, Wind patterns and cyclone formation in the north polar region of Mars: Analysis from sand dune morphologies: NASA TMX, in press.
- Veverka, J., Thomas, P., Lee, S., and Greeley, R., 1978, Eolian activity in the Tharsis/Syria Planum region on Mars: A summary of Viking and Mariner 9 results (abs.): in *Reports of Planetary Geology Program, 1978-1979*, NASA TM 79729, p. 246.

- Veverka, J., Thomas, P., and Sagan, C., 1978, On the visibility of crater-associated streaks on Mars: *Icarus*, v. 36, pp. 147-152.
- Ward, A. W., 1978, Yardangs on Mars: Evidence for recent, widespread wind erosion (abs.): *Amer. Astron. Soc. Bull.*, v. 10, p. 557.
- Ward, A. W., 1978, Windforms and wind trends on Mars: An evaluation of Martian surficial geology from Mariner 9 and Viking spacecraft television images: Ph. D. thesis, University of Washington, Seattle, Washington; 201.
- Ward, A. W., McCauley, J. F., and Grolner, M. J., 1978, The yardangs at Rogers Playa, California (abs.): *NASA TM 79729*: 209-210.
- Ward, A. W., 1979, Yardangs on Mars: Evidence for recent wind erosion: *J. Geophys. Res.*, in press, also *Reports of Planetary Geology Program* (abs.): *NASA Tech. Memo*, in press.
- Ward, A. W., and Greeley, R., 1979, Experimental modeling of erosional windforms (abs.): in *Reports of Planetary Geology Program*, *NASA Tech. Memo*, in press.
- White, B., and Greeley, R., 1978, Wind transport rates on Mars (abs.): in *Reports of Planetary Geology Program*, 1978-1979, *NASA TM 79729*, p. 241-243.
- Wolfe, R. W., 1979, Orientation of eolian features in the north polar region of Mars: A preliminary assessment (abs.): *Lunar and Planetary Science X*, LPI, Houston, p. 1364-1366.
- Wolfe, R. W., and El-Baz, F., 1979, The wind regime of the western desert of Egypt (abs.): *NASA TMX*, in press.

FLUVIAL STUDIES

CHAPTER 10 FLUVIAL STUDIES

- Baker, V. R., 1978, The Spokane flood controversy and the Martian outflow channels. *Science*, v. 202, p. 1249-1256.
- Baker, V. R., 1978, A preliminary assessment of the fluid erosional processes that shaped the Martian outflow channels: *Proceedings of the 9th Lunar and Planetary Science Conference*, Pergamon Press, N.Y., p. 3205-3223.
- Baker, V. R., 1978, The Spokane flood controversy, in Baker, V. R., and Nummedal, D., eds, *The Channeled Scabland*. NASA Office of Space Science, Planetary Geology Program, p. 3-15.
- Baker, V. R., 1978, Quaternary geology of the Channeled Scabland and adjacent areas, in Baker, V. R., and Nummedal, D., eds., *The Channeled Scabland*. NASA Office of Space Science, Planetary Geology Program, p. 17-35.
- Baker, V. R., 1978, Paleohydraulics and hydrodynamics of scabland floods, in Baker, V. R., and Nummedal, D., eds., *The Channeled Scabland*. NASA Office of Space Science, Planetary Geology Program, p. 59-79.
- Baker, V. R., 1978, Large-scale erosional and depositional features of the channeled scabland, in Baker, V. R., and Nummedal, E., eds., *The Channeled Scabland*. NASA Office of Space Science, Planetary Geology Program, p. 81-115.
- Baker, V. R., 1978, Hydrodynamics of erosion by catastrophic floods: eds, NASA Tech. Memo. 79729, p. 248-250.
- Baker, V. R., 1979, Cavitation processes in Martian water flows, (abs.). *Lunar and Planetary Science X*, Lunar and Planetary Inst., Houston, p. 57-59.
- Baker, V. R., 1979, Morphology of channels on Mars (abs.): NASA Conference Publ. 2072, p. 4-6.
- Baker, V. R., editor, 1979, *Catastrophic Flooding: The origin of the Channeled Scabland*. Benchmark Papers in Geology, Dowden, Hutchinson and Ross, Stroudsburg, Penn., in press.
- Baker, V. R., 1979, Fluvial erosion landforms: *McGraw-Hill Yearbook of Science and Technology*, McGraw-Hill Publ. Co., N.Y., in press.

- Baker, V. R., and Kochel, R. C., 1978, Morphometry of streamlined forms in terrestrial and Martian channels: Proceedings of the 9th Lunar and Planetary Science Conference, Pergamon Press, N.Y., p. 3193-3203.
- Baker, V. R., and Kochel, R. C., 1978, Morphological mapping of Martian outflow channels: Proceedings of the 9th Lunar and Planetary Science Conference, Pergamon Press, N.Y., p. 3181-3192.
- Baker, V. R., and Kochel, R. C., 1978, Outflow features in Kasei and Maja Valles, Mars (abs.): Second Colloquium on Planetary Water and Polar Processes, U. S. Army CRREL, Hanover, N.H., p. 142-145.
- Baker, V. R., and Kochel, R. C., 1979, Streamlined erosional forms of Kasei and Maja Valles, Mars (abs.): Lunar and Planetary Science X, Lunar and Planetary Inst., Houston, p. 60-62.
- Baker, V. R., and Nummedal, D., editors, 1978, The Channeled Scabland: NASA Office of Space Science, Planetary Geology Program, 186 p.
- Baker, V. R., and Nummedal, D., Comparative planetary geology field conference on the channeled scabland (abs.): Submitted to the 1979 Planetary Geology Principal Investigators' Conference, Providence, R.I..
- Boothroyd, J. C., and Donlon, T. J., 1978, Landforms and morphology of selected terrestrial river systems (abs.): Reports of Planetary Geology Program, NASA Tech. Memo., TMX-3850, p. 212-216.
- Boothroyd, J. C., and Donlon, T. J., 1978, Channel pattern of selected braided river systems (abs.): Geol. Soc. America Abs. with Programs, v. 10, No. 7, p. 369.
- Carr, M. H., 1978, Formation of Martian flood features by release of water from confined aquifers (abs.): NASA Tech. Memo 79729, p. 260-262.
- Carr, M. H., 1978, Formation of Martian flood features by release of water from confined aquifers (abs.): Journ. Geophys. Res., in press.
- Carr, M. H., 1979, Formation of Martian flood features by release of water from confined aquifers (abs.): Proc. 2nd Int. Colloquium on Mars, p. 11.

- Kochel, R. C., and Baker, V. R., Geomorphic mapping of Martian outflow channels (abs.): Submitted to the 1979 Planetary Geology Principal Investigators' Conference, Providence, R.I.
- Komar, P. D., 1979, Comparisons of the hydraulics of water flows in Martian outflow channels with flows of similar scale on Earth: *Icarus*, v. 37, p. 156-181.
- Malin, M. C., 1978, Resurfacing of Martian channels: Reconciling age relationships (abs.): Division of Planetary Sciences, American Astronomical Society Tenth Annual Meeting, Pasadena, CA, Oct. 31-Nov. 3, 1978, *Bull. Am. Astro. Soc.*, 10(3), 555-556.
- Malin, M. C., 1978, Martian channels: A review (abs.): Abstracts of the Planetary Geology Field Conference on Channeled Scablands, Spokane, Washington, June 5-9, 1978.
- Maxwell, T. Z., and El-Baz, F., 1979, Fluvial landforms in southwestern Egypt: Implications for surface processes on Mars (abs.): *Lunar and Planetary Science X*, LPI, Houston, p. 786-788.
- Patton, P. C., and Baker, V. R., 1978, New evidence for pre-Wisconsin flooding in the channeled scabland of eastern Washington: *Geology*, v. 6, p. 567-571.
- Patton, P. C., and Baker, V. R., 1978, Origin of the Cheney-Palouse scabland tract, in Baker, V. R., and Nummedal, D., eds, *The Channeled Scabland: NASA Office of Space Science, Planetary Geology Program*, p. 117-130.
- Patton, P. C., and Baker, V. R., The Cheney-Palouse scabland tract (abs.): Submitted to the 1979 Planetary Geology Principal Investigators' Conference, Providence, R.I.
- Thellig, E., and Greeley, R., 1978, Channeling history of Maja Vallis (abs.): in Reports of Planetary Geology Program 1978-1979, NASA TM 79729, p. 269-271.
- Thellig, E., and Greeley, R., 1979, Plains and channels in the Lunae Planum - Chryse Planitia region of Mars: *J. Geophys. Res.*, submitted.

PLANETARY GEOLOGICAL MAPPING

CHAPTER 11
PLANETARY GEOLOGICAL MAPPING

- DeHon, R. A., Scott, D. H., and Underwood, J. R., Jr., 1978, Geologic history of Kuiper quadrangle, Mercury: South-central Section — (abs.): Geol. Soc. Am.
- Glikson, A. Y., Milton, D. J., and Brett, P. R., 1978, Gosses Bluff Impact Structure, Northern Territory, Regional Geology (1:50,000) Mineral Resources (Australia).
- Grolier, M. J., and Collins, P. S., 1979, The environment of Landsat scene 205/037, with emphasis on the northeastern margin of the Grand Erg Oriental, southwestern Tunisia: U.S. Geological Survey Project Report, Tunisian Republic Inv. (IR) T-2 in press.
- Grolier, M. M., and Overstreet, W. C., 1978, Geologic map of the Yemen Republic (Sana): U.S. Geological Survey Miscellaneous Investigation Series Map I-1143-B (1:500,000).
- Hodges, C. A., 1979, Geologic map of the Argyre quadrangle of Mars: U.S. Geol. Survey Misc. Inv. Map in press.
- Holt, H. E., 1978, Mercury Geologic Mapping (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 327.
- Hiller, K., 1978, Geologic Map of the Amenthes Quadrangle (MC-14): U.S. Geol. Survey Misc. Geol. Inv. Map in press.
- Lucchitta, B. K., 1978, Geologic map of the north side of the Moon, scale 1:5,000,000: U.S. Geol. Survey Misc. Inv. Map I-1062.
- Lucchitta, B. K., 1978, Geologic map of the Ismenius Lacus quadrangle, Mars scale 1:5,000,000: U.S. Geol. Survey Misc. Inv. Map I-1065.
- Masursky, H., Dial, A. L., and Strobell, M. E., 1978, Geologic map of the Phoenicis Lacus quadrangle of Mars: U.S. Geol. Survey Misc. Inv. Ser. Map I-896.
- Masursky, H., Dial, A. L., Jr., and Strobell, M. E., Geology of the Mare Boreum quadrangle (MC-1): U.S. Geol. Survey Misc. Inv. Map in preparation.

- McCauley, J. F., 1978, Geologic map of the Coprates quadrangle of Mars: U.S. Geological Survey Miscellaneous Investigation Map I-897 (1:5,000,000).
- McGill, G. E., 1978, Geologic map of the Thaumasia Quadrangle of Mars: U.S. Geol. Survey Misc. Inv. Ser., Map I-1077 (MC-25).
- McGill, G., and King, E. A., 1979, Geology of the Victoria Quadrangle, Mercury: U.S. Geol. Surv., Misc. Inv., Map and Text, in press.
- Milton, D. J., Brett, P. R., and Glikson, A. Y., 1978, Gosses Bluff Impact Structure, Northern Territory, Detailed Geology (1:7500): Bureau of Mineral Resources (Australia).
- Moore, H. J., 1979, Geologic map of the Sabaeus Sinus quadrangle, Mars: U.S. Geol. Survey Misc. Map I- in press.
- Morris, E. C., and Dwornik, S. E., 1978, Geologic map of the Amazonis quadrangle of Mars: U.S. Geol. Survey Misc. Inv. Map I-1049.
- Schaber, G. G., and McCauley, J. F., 1979, Geologic map of the Tolstoj Quadrangle of Mercury (H-8): U.S. Geological Survey Miscellaneous Investigation Series Map I-1199 (1:5,000,000).
- Scott, D. H., Morris, E. C., and West, M. N., 1978, Geologic Map of the Aerolis Quadrangle of Mars: U.S. Geol. Survey Misc., Inv. Map I-1111.
- Scott, D. H., 1978, Mars geologic mapping (abs.): in Repts. of Planet. Geol. Prog., 1977-1978, NASA TM 79729, p. 330-331.
- Scott, D. H., and Carr, M. H., 1978, Geologic map of Mars: U.S. Geol. Survey Misc. Inv. Map I-1083.
- Scott, D. H., and Carr, M. H., 1978, Geologic map of Mars, 1:25 million scale: U.S. Geol. Survey Misc. Geol. Inv. Map I-1083.
- Scott, D. H., Morris, E. C., and West, M. N., 1978, Geologic map of the Aeolis quadrangle of Mars: U.S. Geol. Survey Misc. Geol. Inv. Map I-111.
- Scott, D. H., Mars geologic mapping: Post-Viking, 1:15 million scale in press.

- Scott, D. H., 1979, Mars: Viking appraisal of Mariner geologic mapping (abs.): in Second Internat. Colloq. on Mars, NASA Conf. Pub. 2072, p. 73.
- Strobell, M. E., and Cannon, H. L., 1978, Map of geologic sources of radioactivity in the United States: in Geochemistry and the Environment, v. 3: Distribution of trace elements related to the occurrence of certain cancers, cardiovascular diseases and urolithiasis: Natl. Acad. of Sci., Washington, D. C.

PLANETARY CARTOGRAPHY

CHAPTER 12 PLANETARY CARTOGRAPHY

- Arthur, D. W. G., 1978, Orthogonal transformations: *The Am. Cartographer*, v. 5, no. 1, p. 72-74.
- Batson, R. M., Atlas of Mars: The 1:5,000,000 Map Series: NASA Spec. Pub. in press (supercedes IR 56).
- Batson, R. M., Larson, K. B., Reed, V. S., Sutton, R. L., and Tyner, R. L., Apollo 15 lunar surface photographs, chapter 12: in Geology of the Apollo 16 area, Central Lunar Highlands: U.S. Geol. Survey Prof. Paper in press.
- Davies, M. E., Katayama, F., and Roth, J., August 1978, The control net of Mars: February 1978: The Rand Corporation, R-2309-NASA.
- Davies, M. E., Abalakin, V. K., Cross, C. A., Duncombe, R. L., Masursky, H., Morando, B., Owen, T. C., Seidelmann, P. K., Sinclair, A. T., Tjuflin, Y. S., and Wilkins, G. A., 1979, Report of the IAU Working Group on cartographic coordinates and rotational elements of the planets and satellites: Transactions of the IAU, in press (also to be submitted in extended text to *Icarus*).
- Edwards, K., and Batson, R. M., Preparation and presentation of digital maps through image processing techniques: *The Am. Cartographer*, in press.
- El-Baz, F., 1979, Naming moon's features creates 'Ocean of Storms': *Smithsonian*, v. 9, no. 10, p. 96-104.
- Saunders, R. S., Roth, L. E., and Elachi, C., 1978, Radar topography of the Arsia Mons Claritas Fossae region of Mars: NASA Technical Memorandum 79729, p. 128-131.
- Wu, S. S. C., 1978, Stereo mapping with side-looking radar imagery (abs.): in Abstract Book, The International Symposium on the problems of the accuracy improvement of photogrammetric models, Internat. Soc., for Photogramm., Comm. III July 31 to Aug. 5, 1978, Moscow, U.S.S.R., p. 54.

- Wu, S. S. C., 1979, Topographic mapping of Mars (abs.): in Abstracts for Second Internat. Colloq. on Mars, Jan. 15-18, 1979, Pasadena, CA, NASA Conf. Pub. 2072, p. 90.
- Wu, S. S. C., Photogrammetric portrayal of Mars topography: J. Geophys. Res., in press.
- Wu, S. S. C., 1979, Mars photogrammetry (abs.): in Rept. of Planet. Geol. Prog., 1978-1979, NASA TM, in press.
- Wu, S. S. C., Topographic mapping of the Moon (abs.): in Rept. of Planet. Geol. Prog., 1978-1979, NASA TM, in press.
- Wu, S. S. C., Radar photogrammetry (abs.): in Rept. of Planet. Geol. Prog., 1978-1979, NASA TM, in press.
- Wu, S. S. C., Topographic mapping of the Viking Lander areas (abs.): in Rept. of Planet. Geol. Prog., 1978-1979, NASA TM, in press.

INSTRUMENT DEVELOPMENT AND TECHNIQUES

CHAPTER 13 INSTRUMENT DEVELOPMENT AND TECHNIQUES

- Barrick, D. E., Lipa, B. J., 1979, Ocean surface features observed by HF coastal ground-wave radars: A Progress Review and A Compact Transportable HF Radar System for Directional Coastal Wavefield Measurements presented at Ocean Wave Climate Symposium, 12 July 1977 at Herndon, VA and published in Ocean Wave Climate, Marine Science Series, v. 8, ed. by M. D. Earle, and A. Malahoff, Plenum Press, New York, pp. 129-152, 155-202.
- Bass, F. G., Fuks, I. M., Wave scattering from statistically rough surfaces: translated from the Russian and edited by C. B., and J. F., Vesecky, Pergamon Press, Oxford, England, in press, 1979.
- Boyce, J. M., 1979, A method for measuring heat flow in the Martian crust using impact crater morphology (abs.): NASA TM-80339, p. 114-118.
- Chase, S. C., Jr., Engle, J. L., Eyerly, H. W., Kieffer, H. H., Palluconi, F. D., and Schofield, D., 1978, The Viking infrared thermal mapper: App. Opt., v. 17, no. 8, p. 1243-1251.
- Christensen, P. R., and Kieffer, H. H., 1978, Mars as an infrared calibration standard. Incorporation of Viking IRTM results (abs.): in Bull. Am Astron. Soc., v. 10, p. 572.
- Dailey, M., Elachi, C., Farr, T., and Schaber, G. G., 1978, Discrimination of geologic units in Death Valley using multifrequency and multipolarization imaging radar data: Geophys. Res. Lett., v. 5, no. 10, p. 889-892.
- Dailey, M., Elachi, C., Farr, T., Stromberg, W., Williams, S., and Schaber, G. G., 1978, Application of multispectral radar and landsat imagery to geologic mapping in Death Valley: Jet Prop. Lab. Pub. 78-19, 47 p.
- Dailey, M., Blom, R., Elachi, C., and Saunders, R. S., 1979, Analysis of the radar imagery of the eastern Snake River Plain (abs.): NASA Technical Memorandum 80339, p. 362-364.
- Ditteon, R., and Kieffer, H. H., The complex index of refraction of CO₂ ice: in preparation.

- Elachi, C., and Saunders, R. S., 1978, comparative imaging radar planetology (abs.): NASA Technical Memorandum 79729, p. 122-123.
- El-Baz, F., and Ondrejka, R. J., 1978, Earth orbital photography by the large format camera: Proc. 12th Internat'l Symposium on Remote Sensing, Env. Res. Inst. Mich., Ann Arbor, p. 703-718.
- Eshleman, V. R., Haugstad, B. S., 1978, Effects of turbulence on average refraction angles in occultations by planetary atmospheres: Icarus, v. 34, no. 2, pp. 396-405.
- Eshleman, V. R., Gravitational lens of the Sun: Its potential for observations/communications over interstellar distances: submitted to Science, 1979.
- Eshleman, V. R., Tyler, G. L., Wood, G. E., Lindal, G. F., Anderson, J. D., Levy, G. S., and Croft, T. A., 1979, Radio science with Voyager 1 at Jupiter: Preliminary profiles of the atmosphere and ionosphere: Science, in press.
- Eshleman, V. R., Tyler, G. L., Freeman, W. T., 1979, Deep radio occultations and evolute flashes: Their characteristics and utility for planetary studies: Icarus, v. 37, no. 3, pp. 612-626.
- Fenner, R. G., Reid, S. C., and Schaber, G. G., 1978, An unconventional approach to imaging radar calibration: Proc. Synthetic Aperture Radar Tech. Conf. (Las Cruces, NM, March 8-10, 1978) p. II-2-1 to II-2-23.
- Gibson, E. K., Jr., and Andrawes, F. F., 1978, Determination of water and other volatiles in terrestrial and extraterrestrial samples (abs.): Proceedings of the Second Colloquium on Planetary Water and Polar Processes, p. 2-6.
- Gibson, E. K., Jr., Urbancic, M. A., and Andrawes, F. F., 1979, Volatile studies and new instrumental analysis techniques for Martian soil analogs (abs.): Decennial Meeting of Planetary Geology Principal Investigators, in press.
- Haugstad, B. S., 1978, Turbulence in planetary occultations: I. A. Theoretical Formulation: Icarus, v. 35, no. 1, pp. 121-138.

- Haugstad, B. S., 1978, Turbulence in planetary occultations: II. Effects on profiles derived from doppler measurements: *Icarus*, v. 35, no. 3, pp. 410-421.
- Haugstad, B. S., 1978, Turbulence in planetary occultations: III. Effects on atmospheric profiles derived from intensity measurements: *Icarus*, v. 35, no. 3, pp. 422-435.
- Haugstad, B. S., 1978, Effects of the Inhomogeneous background on radiation propagating through turbulent planetary atmospheres: *Radio Science*, v. 13, no. 3, pp. 435-440.
- Haugstad, B. S., 1979, Turbulence in planetary occultations: IV. Power spectra of phase and intensity fluctuations: *Icarus*, v. 37, no. 1, pp. 332-335.
- Haugstad, B. S., Eshleman, V. R., 1979, On the wavelength dependence of the effects of turbulence on average refraction angles in occultations by planetary atmospheres: *Ap. J.*, v. 228, no. 3.
- Lipa, B. J., Tyler, G. L., 1979, Statistical and computational uncertainties in atmospheric profiles from radio occultations: Mariner 10 at Venus: *Icarus*, in press.
- Kieffer, H. H., and Palluconi, F. D., 1978, Martian surface particle sizes determined by thermal mapping (abs.): in Repts., of Planet. Prog., NASA TM 78455, p. 27-29.
- Kieffer, H. H., Pleskot, L. K., and Smythe, W. D., 1978, Spectra of possible Galilean satellite materials: T and $\langle d \rangle$ effects (abs.): in Bull. Am. Astron. Soc., v. 10, p. 580.
- Lipa, B. J., 1978, Inversion of Second-order echoes from the sea: *J. Geophys. Res.*, v. 83, no. C2, pp. 959-962.
- Lipa, B. J., Tyler, G. L., 1978, Statistical errors in radio occultation for Mariner 10: Presented at American Astronomical Society, Division for Planetary Science Meeting, 31 Oct. 1978, and published in Bulletin of Amer. Astron. Soc., v. 10, no. 3, Part II, pp. 545.
- Morris, E. C., Jones, K. L., and Berger, J. P., 1978, Location of Viking I lander on the surface of Mars: *Icarus*, v. 34, no. 3, p. 548-555.

- Mouginis-Mark, P. J., and Wilson, L., 1979, MERC: A Fortran IV program for the production of topographic data for the planet Mercury.
- Mouginis-Mark, P. J., and Wilson, L., 1979, Photoclinometric measurements of mercurian landforms: Lunar and Planetary Science X, 873-875.
- Ness, N. F., 1979, The magnetic fields of Mercury, Mars, and Moon: Ann. Rev. Earth Planet. Sci., 7, p. 249-288.
- Saunders, R. S., 1979, Mars soil/water/atmosphere dynamic interactions experiment process (abs.): NASA Technical Memorandum 80339, p. 197-199.
- Schaber, G. G., and Elachi, Charles, Radar returns from a blocky lava flow: Quasi-specular reflection, multiple scattering and Rayleigh scattering effects (abs.): in Accomplishments of the Planet. Geol. Prog., 1978-1979, NASA TM, in press.
- Simpson, R. A., Tyler, G. L., and Howard, H. T., Mars Bistatic Radar: Presented at the NASA Planetary Geology Principal Investigators' Meeting, U. of Arizona, Tucson, AZ, May 31, 1978: Abstract in Reports of Planetary Geology Program, 1977-1978, NASA Technical Memorandum 79729, compiled by R. Strom and J. Boyce, pp. 135-136.
- Stephens, J. B., 1979, Water instrument development (abs.): NASA Technical Memorandum 80339, p. 407.
- Teague, C. C., 1979, Synthetic aperture HF radar wave measurement experiments: Presented at Ocean Wave Climate Symposium, 12 July, 1977 and published in Ocean Wave Climate, Marine Science Series, v. 8, ed. by M. D. Earle, and A. Malahoff, Plenum Press, New York, pp. 203-220.
- Thompson, T. W., Matson, D. L., Saunders, R. S., Shorthill, R. W., Zisk, S. H., Moore, H. J., and Schaber, G. G., 1978, Unusual remote sensing signatures of Montes Jura and Crater Plato (abs.): in Lunar and Planet. Sci. IX, Abstracts of papers submitted to the Ninth Lunar and Planet. Sci. Conf., The Lunar and Planet. Inst., Houston, TX, Pt. 2, p. 1164-1165.

- Underwood, J. R., Jr., 1978, Use of the edge enhancer in geologic analysis of planetary surfaces (abs.): NASA TM-79729, p. 312-313.
- Veverka, J., Goguen, J., Yang, S., and Elliot, J., 1978, How to compare the surface of Io to Laboratory Samples: Icarus, v. 34, pp. 63-67.
- Veverka, J., Goguen, J., Yang, S. and Elliot, J., 1978, Scattering of light from particulate surfaces. I.: Icarus, v. 34, pp. 406-414.

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